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AN ASSESSMENT OF THE SUPPLIES OF NATURAL GAS AND FUELS FOR GENERATING ELECTRICITY IN OHIO

JULY, 1983 - JUNE, 1984

PRESENTED TO
GOVERNOR RICHARD F. CELESTE,
THE OHIO GENERAL ASSEMBLY, AND
THE PUBLIC UTILITIES COMMISSION OF OHIO

AUGUST 15, 1983
DIVISION OF ENERGY,
THE OHIO DEPARTMENT OF DEVELOPMENT
ALFRED S. DIETZEL, DIRECTOR

STATE OF OHIO
Richard F. Celeste, Governor
Alfred S. Dietzel, Director

Department of Development

P.O. Box 1001 • Columbus, Ohio • 43216

August 15, 1983

The Honorable Richard F. Celeste
Governor
Statehouse
Columbus, Ohio 43215

Dear Governor Celeste:

Pursuant to ORC 4905:14, each public electric and gas utility in Ohio is required to file with the Ohio Department of Development, Division of Energy, a report on July and November 1, containing projections of the utilities' total demand and fuel supply over the following 12 months. As required by the same statute, we sent to you on July 10, 1983, copies of the utilities' reports.

The attached report is a summary and analysis of these reports as required by 4905:14. It includes an evaluation of the Ohio gas and electric situation for the coming winter and the next 12 months. It appears at this time that fuel supplies will be adequate, even with a 10 percent colder than normal winter and increasing industrial activity. The only foreseeable potential supply disruption would be as a result of a miners' strike. The current UMW contract expires on September 30, 1984.

Sincerely,

Alfred S. Dietzel
Director

ASD:ra

cc: Thomas Smith, Senate Clerk
Ty Marsh, Clerk of the Senate
Michael Del Bane, PUCO Chairman

An Assessment of the Supplies of Natural Gas and Fuels for Generating Electricity in Ohio from July 1983 - June 1984

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INTRODUCTION

This report has been prepared by the Ohio Department of Development, Division of Energy, pursuant to Section 4905.14(E) of the Ohio Revised Code. The statute requires the division to provide a summary, analysis and recommendations based on the Ohio public utilities' energy supply and demand projections for the 12-month period beginning July 1, 1983. In accordance with Section 4905.14(D), a copy of each utility's July forecast was submitted to the governor, Clerk of the Senate, the Legislative Clerk of the House of Representatives, and the Public Utilities Commission of Ohio on July 10, 1983. The utilities' forecasts and historical data are the primary input for this report. Several other sources of information have also been used, including historical energy data developed by the Ohio Division of Energy, federal energy reports, and publications from the American Gas Association and the Electric Power Research Institute. A substantial and successful effort has been undertaken to develop a comprehensive data base which supports our ability to provide timely analyses and forecasts.

Objectives

The following major objectives guided the preparation of this report:

1. To provide an adequate historical, energy-related data profile for identification of current status and future trends;
2. To provide analysis and interpretation of short-term changes in energy supply and demand;
3. To provide an assessment of the adequacy of natural gas and electric energy supply for the upcoming 12 months; and
4. If a potential deficiency between supply and demand is identified, to suggest a strategy to prevent or mitigate any interruption or curtailment of service.

The information evaluated is supplied in part by reports filed with the Ohio Division of Energy and the federal government, and is augmented by the research and analysis of the division.

Requirements and Scope of This Report

The utilities are required to file short-term forecast information under Section 4905.14 Ohio Revised Code, effective November 1, 1978. The division prepares a summary and analysis of this information under paragraph (E) of this section.

The municipal utilities, industrial facilities and the rural electric cooperatives are not required to file the semi-annual report. This report incorporates data from the major electric and gas utilities serving the state. Ohio Division of Energy

estimates that the major utilities provide approximately 95 percent of the electricity consumed in the state and 98 percent of the natural gas, excluding self-help gas.

Ohio Division of Energy Forecasts

As part of its analysis, the Ohio Division of Energy makes its own independent forecasts to serve as validation checks. The division has the capability to forecast monthly demand by utility and for the state as a whole within a reasonable level of error (less than five percent in most cases). Such forecasts are based on historical month-by-month actual consumption for both electricity and natural gas and other appropriate variables such as population, income and temperature data. As in any forecast, certain important socioeconomic conditions are assumed in the independent forecasts. These assumptions are stated below:

1. Energy demand generally follows its historical consumption pattern.
2. Socioeconomic changes are minimal in affecting demand for energy in the short run.
3. The observed level of conservation will remain in effect.
4. Other specific assumptions are stated where appropriate.

Overview of this Report

The report is divided into two parts: electric energy and natural gas. Materials contained in these two parts are, for the most part, parallel in arrangement. They contain:

(a) a profile of reporting utilities;

(b) historical sources of supplies/suppliers;

(c) consumption history by sector, utility, and state: and

(d) the utilities' forecasts and independent forecasts by the Ohio Division of Energy.

To better illustrate, the data are frequently displayed graphically.

Temperature and Energy Consumption

Changes in the observed annual energy requirements of the three major consuming sectors may be explained by a variety of factors. Temperature is a variable which explains much of the observed variation. It is particularly significant in the residential and commercial sectors where, during summer and winter periods, the requirements for electricity and natural gas are used to maintain comfortable room temperatures.

Two indicators which measure temperature-sensitive energy requirements are heating degree days and cooling degree days. The daily mean temperature is obtained by adding together the maximum and minimum temperatures reported for the day and dividing the total by two. When the daily mean temperature is 65^{o} F., the degree day total is zero. Each degree of mean temperature below 65^{o} F. is counted as one heating degree day. This indicator is convenient because the amount of heat required to maintain a certain temperature level is proportional to heating degree days.

The cooling degree days are defined similarly: each degree of mean temperature above 65^{o} F. is counted as one cooling degree day. If the daily mean temperature is 65^{o} F. or lower, the cooling degree day total is zero.

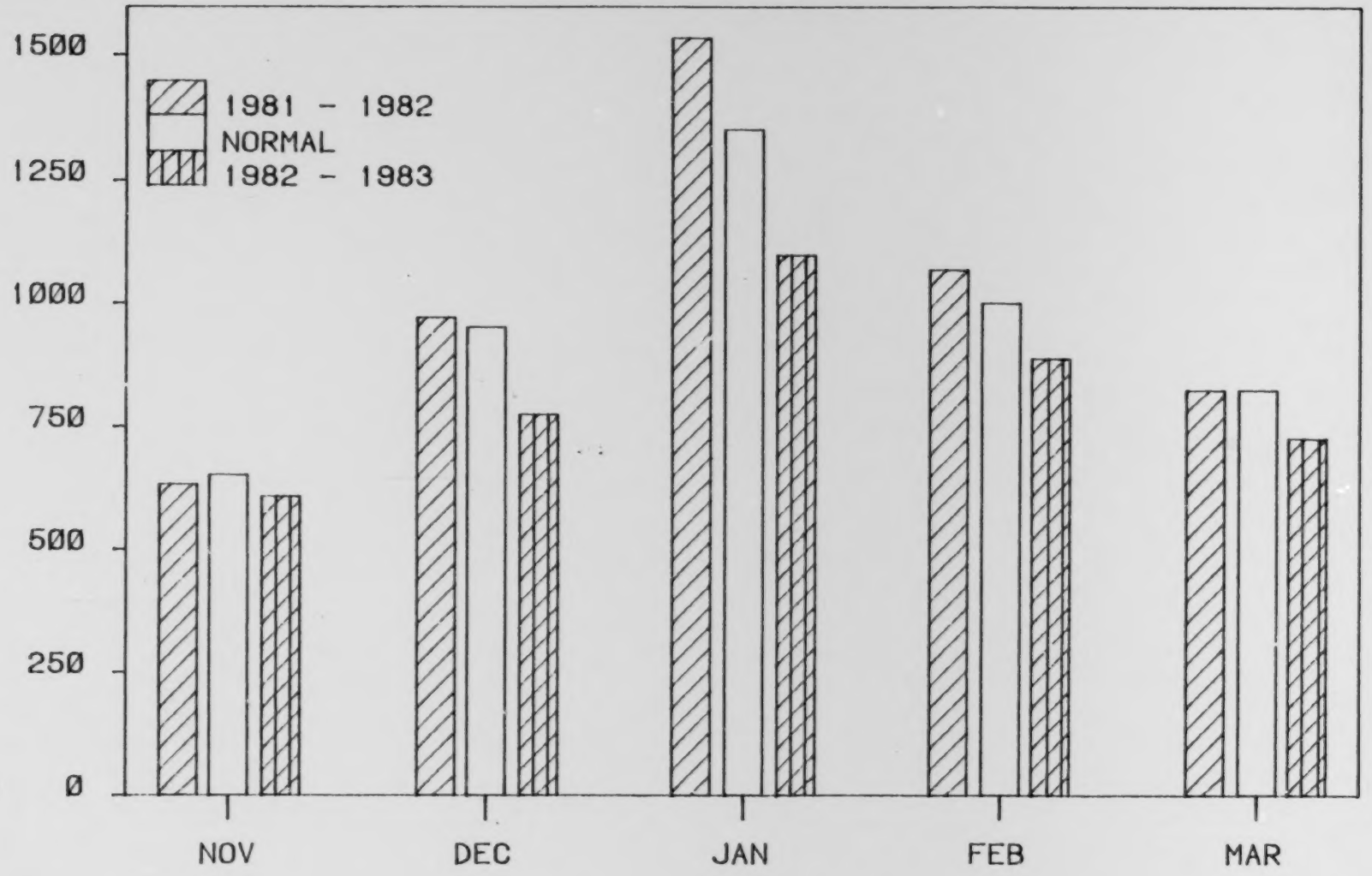
Since most homes and commercial buildings in Ohio are heated by natural gas, the reporting gas utilities are required to submit supply and demand forecasts under a normal winter scenario and a 10 percent colder than normal winter scenario. In addition, the relationship between natural gas consumption and heating degree days is closely monitored during the winter heating season (from November through March). Table 1 and Figure 1 show, for the past two heating seasons, population-weighted state heating degree day summaries. In addition, a normal heating degree day series, defined as the 30-year average of the years 1941 to 1970, is presented.

Table 1. Population-Weighted
Heating Degree-Day Summary for Ohio
November 1982 through March 1983

Month	Heating Season (November-March)		
	1982-1983	Norm	1981-1982
November	606	654	632
Deviation from Norm	-7.3%	--	-3.4%
Deviation from Previous Year	-4.1%	--	-10.9%
December	774	948	971
Deviation from Norm	-18.4%	--	2.4%
Deviation from Previous Year	-20.3%	--	0.5%
January	1,099	1,350	1,535
Deviation from Norm	-18.6%	--	13.7%
Deviation from Previous Year	-28.4%	--	4.2%
February	888	997	1,066
Deviation from Norm	-10.9%	--	6.9%
Deviation from Previous Year	-16.7%	--	16.2%
March	726	822	824
Deviation from Norm	-11.7%	--	0.2%
Deviation from Previous Year	-11.9%	--	-4.3%

Source: National Oceanic and Atmospheric Administration and the Ohio Division of Energy.

FIGURE 1. POPULATION-WEIGHTED HEATING DEGREE-DAYS FOR OHIO
WINTER HEATING SEASONS 1981 - 1983



SOURCE: NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

ELECTRICITY

This section is based on the July forecasts filed by nine major Ohio electric utilities. Two of these, Columbus and Southern Ohio Electric Company and Ohio Power Company, are subsidiaries of the American Electric Power Company. Since American Electric Power operates as a centrally dispatched, integrated distribution system, the report reviews forecasts of demand and fuel adequacy for the entire American Electric Power Company. The Allegheny Power System is also a centralized power generation and distribution system, of which one subsidiary is Monongahela Power. Thus, the forecasts of eight utilities are presented in the report. They are:

1. Allegheny Power System (APS)
   - Monongahela Power
   - Other out-of-state utilities not subject to reporting.
2. American Electric Power Company (AEP)
   - Columbus and Southern Electric Company (C&SOE)
   - Ohio Power Company
   - Other out-of-state utilities not subject to reporting.
3. Cincinnati Gas and Electric Company (CG&E)
4. Cleveland Electric Illuminating Company (CEI)
5. Dayton Power and Light Company (DP&L)
6. Ohio Edison Company (and its subsidiary Pennsylvania Power)
7. Ohio Valley Electric Corporation (OVEC)
8. Toledo Edison Company

With the exception of OVEC, each of these is an investor-owned utility supplying electricity to residential, commercial, and industrial customers in its service areas. The Ohio Valley Electric Corporation is a single-customer utility supplying power for the uranium enrichment plant at Piketon, Ohio. It also sells surplus generation to other electric utilities.

Supply and Generation

Source/Supplier of Fuel for Electric Generation

Fuels used in Ohio for electric generation include coal, oil, natural gas and nuclear fuel. Nuclear fuel sources are not monitored by the division. All other fuels are monitored through the utilities' monthly reports. Tables 2 and 3 list coal and oil deliveries to power plants located in Ohio. The main sources of supply and/or suppliers of these fuels remain the same as in the last reporting period.

Coal deliveries to Ohio electric plants during the 12 months ending April 1983, declined by 7,210,700 tons from the previous 12-month period, a decline of 15.3 percent (Table 2 and Figure 2). Deliveries of oil to Ohio power plants increased by 317,400 barrels during the 12-months ending April 1983 from the previous 12-month period, an increase of 73.3 percent (Table 3 and Figure 3). The decline in coal deliveries is attributable to slackening demand for electricity, while the increase in oil deliveries was occasioned by a significantly large purchase of oil by the Ohio Edison Company in August 1982.

Electric Generation by Type of Fuel

Coal is the main source of fuel for electric generation in Ohio, and its position is not expected to change in the foreseeable future. In the 12-months ended April 1983, 95.6 percent of the total electricity generated in Ohio was from coal. Electricity generated by oil continued to decline to a negligible 0.1 percent of total generation. Nuclear-generated electricity accounted for 4.4 percent of electricity generated in the state in the 12-months ending April 1983. From April through August 1982, Davis-Besse was shut down for maintenance. It began generating electricity in September 1982 and is scheduled to remain on line until September 1983.

Table 4 and Figure 4 show the combined monthly totals of the reporting utilities' net generation from Ohio plants. Historical power plant fuel consumption and fuel stocks are displayed in Table 5. The decline in coal stocks in mid-1981 was occasioned by a coal strike settled in June of that year.

Historical Behavior of Sectoral Requirements

Since the 1973 OPEC oil embargo and with the escalation of energy prices, the pattern of electricity consumption in Ohio has changed dramatically. Increasing prices have stimulated conservation activities and fostered economic conditions that have resulted in reduced growth rates in the demand for electricity. For the 12-month period ending in May 1983, total electricity consumption in the state was 8.3 percent lower than during the preceding 12-month period (see Table 6 and Figure 5).

Residential sector demand declined 5.6 percent, commercial sector demand declined 1.1 percent and industrial sector demand declined 13.1 percent.

Electric consumption by the residential and commercial sectors exhibits strong seasonal patterns while the industrial sector fluctuates widely with general economic conditions. The mild winter of 1982-83 resulted in decreased residential sector demand, particularly during the months of January through March (Table 6 and Figure 5A). In December 1982 industrial electricity consumption dipped to its lowest point in the data series maintained by the division which begins in January 1971. A severe downturn in the manufacturing sector, particularly in automobile-related industries, has resulted in a current monthly industrial demand level of 3100 to 3400 megawatt-hours. It appears, however, that monthly consumption of electricity by the industrial sector is increasing with the current economic recovery.

12-Month Electricity Demand Forecasts

Each electric utility submits its forecast of total service area demand for July 1983 through June 1984. These forecasts are displayed in Appendix Tables A-1 through A-8, along with independent forecasts prepared by the Ohio Division of Energy. The Ohio Division of Energy also prepares independent 12-month forecasts of electricity demand for the state of Ohio, by sector. These forecasts are displayed in Appendix Tables A-9 through A-12.

Electric Demand Forecasts by Utility Service Area

The Ohio Division of Energy utility service area forecasts are based on monthly data from utility reports from January 1970 through May 1983. No independent forecast is provided for OVEC, because this utility has only one customer whose demand is preplanned.

Because of the overlapping months for utility forecasts submitted on July 1 and November 1, the utilities may elect to use their previous forecasts for those overlapping months in the new forecasting period. Cincinnati Gas and Electric and the Allegheny Power System retained the forecasts submitted in November for July 1983 through October 1983. American Electric Power adjusted its demand forecast for these four months downward by 5.4 percent. Cleveland Electric Illuminating forecasts for the four-month period are adjusted downward by 4.8 percent; Dayton Power and Light by 5.4 percent; Ohio Edison by 9.9 percent; and Toledo Edison by 6.9 percent.

With the exception of the Cleveland Electric Illuminating Company, utility forecasts of monthly demand for July 1983 through June 1984 are generally higher than those prepared by the Ohio Division of Energy (Appendix A).

ASSESSMENT OF UTILITY FUEL ADEQUACY

Tables 7-A and 7-B present the utilities' projections of deliveries, consumption, and end-of-month stocks of coal and oil for the generation of electricity. Table 7-C presents the division's independent assessment of the adequacy of supply of generating fuels. The division's projections are presented for the CAPCO Group of utilities, which include Cleveland Electric Illuminating, Ohio Edison, and Toledo Edison; for the American Electric Power and Allegheny Power Systems, and for Dayton Power and Light, Cincinnati Gas and Electric, and the Ohio Valley Electric Corporation.

Coal

The division's projections as well as those of the electric utilities indicate an adequate supply of coal throughout the forecast period for each utility serving the state.

To derive the Ohio Division of Energy projections, average daily requirements of coal were determined by dividing projected monthly coal consumption by the number of days in the month. End-of-month stocks were derived by considering consecutively end of June 1983 stocks, projected monthly coal delivery schedules as submitted by the utilities, and projected monthly coal consumption levels. Number of days' supply of coal was estimated on the basis of average daily requirements in subsequent months and the level of end-of-month stocks for the month in question.

Coal consumption projections were made through the use of a formula which adjusts coal consumption levels for changes in the consumption of oil, natural gas, and nuclear fuel in a manner that is consistent with the projected demand or net energy for load. In making these projections, it is assumed that the following conditions will be satisfied:

1. Monthly demand (net energy for load) for July 1983 through June 1984 will be realized in the manner projected by the utility companies.
2. Energy required to supply projected net energy for load in a given month from July 1983 through June 1984 will be proportional to the energy consumed in supplying the actual net energy for load in the previous 12-month period.
3. Monthly delivery schedules for all fuels in 1983 and 1984 will be met in the manner projected by the utility companies.

Oil

Each electric utility forecasts an adequate supply of oil for the generation of electricity throughout the forecast period. The division's projections indicate an adequate supply of oil as well. Negative values for end-of-month stocks of oil are misleading, in light of the continuing decline in the amount of electricity generated by oil that is anticipated this year, and the availability of oil on the spot market. The division will closely monitor the monthly oil stocks of the Allegheny Power System and Cincinnati Gas and Electric throughout the forecast period to ensure their adequacy.

Table 2. Source of Coal Supply to Electric Utilities
(Ohio Portion)
(In Thousand Short Tons)

Month	Coal Districts 1	2	3	4	6	7&8	9	Other	Total
1981									
January	----	137.9	82.7	2,241.6	270.6	1,269.2	106.7	319.4	4,428.1
February	----	178.5	91.2	2,063.3	242.3	1,120.4	37.7	196.4	3,929.8
March	----	193.2	137.2	2,333.0	125.5	1,304.2	19.1	332.3	4,444.5
April	----	98.8	41.7	372.4	20.0	664.4	14.4	51.4	1,263.1
May	----	75.9	4.4	422.7	----	753.8	1.5	----	1,258.3
June	----	75.3	9.1	1,576.2	190.2	1,137.3	23.9	----	3,012.9
July	----	157.6	63.6	2,247.1	242.7	874.4	42.4	238.6	3,866.4
August	----	174.5	76.0	2,351.3	361.9	1,191.5	49.9	376.7	4,581.8
September	----	171.6	30.8	2,386.8	296.3	985.4	124.7	289.0	4,284.6
October	----	201.0	21.6	2,648.6	346.2	1,161.1	71.3	276.4	4,726.2
November	----	170.5	12.1	2,504.1	307.9	1,101.0	91.4	241.1	4,428.1
December	10.9	135.5	28.1	2,309.2	120.0	835.9	215.3	483.3	4,138.3
Total	10.9	1,770.3	598.5	23,456.3	2,523.7	12,398.6	798.3	2,804.6	44,361.2
% of Total	0.0	4.0	2.0	52.9	5.7	28.0	1.8	6.3	
1982									
January	----	128.4	23.9	2,019.3	222.7	1,097.7	103.7	200.2	3,795.9
February	----	123.0	19.4	2,137.4	388.2	1,187.4	51.2	191.7	4,098.3
March	----	173.4	27.9	2,303.4	382.9	1,505.2	56.7	237.9	4,687.4
April	----	136.9	37.3	2,031.0	237.3	1,457.9	109.8	168.8	4,179.0
May	----	109.5	40.3	1,554.9	200.8	1,058.5	28.6	150.8	3,143.4
June	0.7	121.7	31.0	1,976.6	170.0	1,090.1	97.3	134.0	3,621.4
July	----	139.0	12.5	1,537.3	126.3	590.8	76.4	131.8	2,614.1
August	----	134.7	4.3	1,998.6	317.3	1,299.2	79.6	178.7	4,012.4
September	----	139.2	36.4	1,982.4	285.8	1,094.8	67.5	184.8	3,790.9
October	----	173.4	7.1	1,879.1	346.1	859.7	77.6	64.4	3,407.4
November	----	205.9	33.1	1,973.1	306.1	1,202.3	118.2	58.2	3,896.9
December	----	136.0	42.3	1,770.8	297.8	1,106.2	100.2	161.4	3,614.7
Total	0.7	1,721.1	315.5	23,163.9	3,281.3	13,549.8	966.8	1,862.7	44,861.8
% of Total		3.8	0.7	51.6	7.3	30.2	2.2	4.2	
1983									
January	----	105.8	37.9	1,865.6	292.9	938.4	62.2	239.7	3,542.5
February	----	76.0	25.0	1,608.6	291.9	793.3	9.0	102.1	2,905.9
March	----	109.1	9.1	1,274.6	349.9	973.2	5.8	98.7	2,820.4
April	----	85.5	14.7	1,438.8	240.0	685.5	12.0	----	2,476.5

District

1. Eastern Pennsylvania
2. Western Pennsylvania
3. Northern West Virginia
4. Ohio
6. Panhandle in West Virginia
7. Southern No. 1 (in West Virginia and Virginia)
8. Southern No. 2 (in West Virginia, Virginia and Eastern Kentucky)
9. Western Kentucky

Other - Primarily from Wyoming and Utah

Source: Form FPC 4.

Table 3. Major Oil Suppliers to Electric Utilities
(Ohio Portion)
(Thousand Barrels)

	Allied	Marathon	McCarthy	Standard	Union	Other	Total
1981							
January	32.6	1.0	---	0.7	3.6	16.0	53.9
February	141.8	---	---	4.0	2.6	15.6	164.0
March	93.8	0.2	---	4.5	4.9	17.9	121.3
April	36.4	0.2	---	4.4	1.8	2.3	45.1
May	28.5	0.2	---	3.4	2.5	0.7	35.3
June	53.4	---	---	4.7	2.6	1.1	61.8
July	31.8	0.2	---	5.3	2.4	0.8	40.5
August	22.0	---	---	3.9	---	0.2	26.1
September	16.5	---	---	3.4	1.7	1.0	22.6
October	15.8	---	---	4.7	2.2	1.7	24.4
November	20.0	0.1	---	5.0	1.7	0.1	26.9
December	16.0	0.5	---	4.3	2.2	---	23.0
Total	508.6	2.4	0.0	48.3	28.2	57.4	644.9
% of Total	78.9	0.4	0.0	7.5	4.4	8.9	
1982							
January	35.9	0.2	--	2.8	1.8	--	40.7
February	34.7	0.2	--	2.3	2.9	--	40.1
March	21.8	--	--	3.4	1.5	--	26.7
April	62.5	--	--	1.8	0.9	--	65.2
May	26.8	--	--	2.3	2.2	--	31.3
June	50.6	--	--	6.5	1.8	--	58.9
July	35.7	0.2	--	7.9	2.3	--	46.1
August	140.2	--	--	204.6	2.8	--	347.6
September	58.5	0.6	--	3.4	1.2	--	63.7
October	13.5	--	--	2.5	1.7	--	17.7
November	42.2	--	--	2.5	3.0	--	47.7
December	9.4	--	--	1.9	2.8	--	14.1
Total	531.8	1.2	--	241.9	24.9	--	799.8
% of Total	66.5	0.2	--	30.2	3.1	--	
1983							
January	36.5	18.1	--	9.1	3.0	--	66.7
February	7.3	0.2	--	5.2	2.0	--	14.7
March	7.0	0.6	--	11.1	2.0	2.0	22.7
April	6.8	0.2	--	9.5	2.0	1.0	19.5

Source: Form FPC 4 and the Ohio Division of Energy.

Table 4. Major Ohio Utilities - Net Generation by Type of Fuel (Ohio Portion)
(Thousand MWH)

	Coal	Oil	Gas	Nuclear	Total
1981					
January	10,864	38	8	58	10,968
February	9,032	23	7	513	9,576
March	9,876	31	13	451	10,371
April	7,646	3	2	160	7,810
May	8,547	19	10	477	9,054
June	8,555	18	11	363	8,947
July	8,711	17	12	200	8,941
August	9,186	5	1	313	9,505
September	7,596	4	2	607	8,209
October	8,050	4	1	548	8,603
November	8,426	4	1	189	8,621
December	9,258	2	.5	526	9,786
Total	105,747	168	68.5	4,405	110,391
% of Total	95.8%	0.2%	0.1%	4.0%	
1982					
January	10,194	27	3	576	10,799
February	9,026	6	2	386	9,420
March	9,170	8	3	165	9,347
April	8,593	14	3	0	8,610
May	7,464	13	2	0	7,479
June	7,750	6	0	0	7,756
July	8,741	11	5	0	8,757
August	8,627	12	3	0	8,642
September	7,726	8	1	343	8,078
October	7,778	2	1	537	8,318
November	7,653	2	1	604	8,260
December	8,165	--	0	615	8,780
Total	100,887	109	24	3,226	104,246
% of Total	96.78%	0.1%	0.0%	3.1%	
1983					
January	8,219	-3	1	357	8,574
February	7,041	-1	0	560	7,600
March	7,055	1	1	647	7,705
April	6,716	8	1	574	7,299

Source: Form FPC 4 and the Ohio Division of Energy.

Table 5. Major Ohio Electric Utilities
Fuel Consumption and Stocks
(Ohio Portion)

	Coal (Thousand Tons)		Oil (Thousand 42-Gal. Bbls.)		Gas (MMCF)
1981	Burned	In Stock	Burned	In Stock	Burned
January	4,906.0	12,454.4	143.3	1,055.4	166
February	4,104.6	12,373.3	111.8	1,099.1	164
March	4,456.5	12,454.5	112.2	1,174.3	121
April	3,458.7	10,302.7	70.4	1,154.3	63
May	3,937.0	7,537.9	107.6	1,116.7	119
June	3,971.2	6,742.2	89.0	1,106.0	190
July	3,688.0	6,350.0	99.5	889.6	271
August	4,189.7	7,377.8	60.3	880.1	52
September	3,449.9	8,310.6	51.2	865.6	69
October	3,556.2	9,446.1	61.8	851.5	61
November	3,714.3	10,248.7	71.8	815.8	40
December	4,156.8	10,115.6	57.2	805.8	42
Total	47,589.7	--------	1,036.1	-------	1,358
Avg/Month	3,965.8	9,477.1	86.4	984.5	113
1982					
January	4,629.5	9,351.6	147.9	735.8	119.0
February	4,334.6	9,241.2	71.1	721.3	59.0
March	4,072.6	9,866.8	67.0	723.1	68.0
April	3,832.1	10,153.7	74.1	762.0	73.0
May	3,191.5	10,304.0	75.0	698.4	38.0
June	3,412.2	10,762.3	78.7	733.2	23.0
July	4,023.2	9,239.8	61.8	755.0	25.0
August	3,880.1	9,147.0	74.2	716.6	85.0
September	3,494.3	9,630.0	51.9	779.2	35.4
October	3,453.1	9,814.9	55.7	744.3	34.0
November	3,271.3	9,563.6	72.1	1,456.5	35.4
December	3,591.4	10,082.9	36.5	1,074.5	24.7
Total	45,185.9	117,157.8	866.0	9,899.9	619.5
Avg/Month	3,765.0	9,763.0	72.0	825.0	51.6
1983					
January	3,582.2	9,807.8	51.1	1,470.5	45.5
February	3,068.6	9,694.0	43.5	1,468.1	17.0
March	3,076.2	9,378.9	39.7	1,468.5	42.5
April	2,920.4	9,649.2	48.8	624.9	39.6

Source: Form FPC 4 and the Ohio Division of Energy.

Table 6. Ohio Electricity Consumption
June 1982 - May 1983
(Thousand MWH)

	June	July	August	September	October	November	December	January	February	March	April	May	Total
Residential													
1982-83	1,964.8	2,345.8	2,440.8	2,052.2	1,943.4	2,113.9	2,527.4	2,909.8	2,725.6	2,390.5	2,378.3	2,016.9	27,809.4
1981-82	2,065.1	2,521.2	2,370.9	2,197.2	1,960.3	2,112.4	2,707.2	3,375.9	3,106.1	2,712.5	2,392.7	1,953.2	29,473.9
% Change	-4.8	-7.0	2.9	-6.6	-0.9	0.1	-6.6	-13.8	-12.2	-11.9	-0.6	3.3	-5.6
Commercial													
1982-83	1,770.5	1,925.7	1,946.0	1,805.8	1,673.0	1,624.5	1,743.6	1,838.6	1,778.8	1,739.6	1,661.4	1,604.0	21,111.5
1981-82	1,758.5	1,989.6	1,906.0	1,849.5	1,621.2	1,581.2	1,733.3	1,955.4	1,872.6	1,781.2	1,666.8	1,632.7	21,348.0
% Change	0.6	-3.2	2.1	-2.4	3.2	2.7	0.6	-6.0	-5.0	-2.3	-0.3	-1.8	-1.1
Industrial													
1982-83	3,295.3	3,075.7	3,196.4	3,107.5	3,014.8	2,910.7	2,779.2	2,921.2	3,102.7	3,301.5	3,201.3	3,342.5	37,248.8
1981-82	4,006.0	3,898.6	4,011.2	3,843.9	3,875.3	3,617.7	3,236.0	3,197.7	3,285.7	3,428.8	3,228.9	3,217.5	42,847.3
% Change	-17.7	-21.1	-20.3	-19.2	-22.2	-19.5	-14.1	-8.6	-5.6	-3.7	-0.9	3.9	-13.1
Other													
1982-83	423.5	399.1	396.7	395.0	424.7	441.4	469.2	487.2	451.5	450.6	399.4	386.0	5,214.3
1981-82	407.1	401.3	382.5	408.3	421.1	447.5	490.7	507.0	499.6	491.6	438.8	408.8	5,304.3
% Change	4.0	-0.5	3.7	-3.3	0.9	-1.4	- 4.3	-3.9	-9.6	-8.3	-9.0	-5.6	-1.7
Total													
1982-83	7,454.2	7,746.3	7,980.0	7,360.5	7,055.9	7,090.5	7,519.4	8,156.8	8,058.6	7,882.2	7,140.4	7,349.4	90,794.2
1981-82	8,236.6	8,810.8	8,669.7	8,298.4	7,877.9	7,758.8	8,167.2	9,036.0	8,764.0	8,414.1	7,727.2	7,212.2	98,972.9
% Change	-9.5	-12.0	-8.0	-11.3	-10.4	-8.6	-7.9	-9.7	-8.0	-6.3	-7.6	1.9	-8.3
Customers (000)													
Residential	3,456.0	3,453.1	3,452.0	3,452.0	3,454.6	3,459.3	3,464.7	3,469.8	3,473.3	3,474.3	3,474.6		
Commercial	354.3	354.0	353.9	354.0	354.2	354.4	354.4	354.4	354.5	354.8	355.8		
Industrial	24.4	24.5	24.5	24.5	24.6	24.6	24.6	24.6	24.7	24.8	24.8		
Total	3,834.7	3,831.6	3,830.4	3,830.6	3,833.0	3,838.3	3,843.8	3,848.8	3,852.5	3,853.9	3,855.2		

Note: (1) Percentage change is from the same period of the previous year (1981-82).
(2) Excludes sales to other utilities.
(3) Figures may not add to exact totals because of independent rounding.
(4) Figures reported include CG&E, CEI, C&SOE, DP&L, Monongahela Power, Ohio Edison, Ohio Power and Toledo Edison.

Source: Ohio Electric Utility Institute's Monthly Summaries.

Table 7-A. Ohio Electric Utilities' Projected Deliveries, Consumption, and Stocks of Coal for Electricity Generation, 1983-1984, (1000 Short Tons)

	July	August	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June
Allegheny Power System												
Deliveries	1,318.2	1,318.2	1,318.2	1,318.2	1,318.2	1,318.2	1,288.8	1,288.8	1,288.8	1,288.8	1,288.8	1,288.8
Consumption	1,302.3	1,393.0	1,295.7	1,232.2	1,255.5	1,430.4	1,513.2	1,271.2	1,371.9	1,216.2	1,216.9	1,148.5
Stocks	3,656.7	3,581.9	3,690.4	3,667.8	3,753.1	3,640.8	3,416.4	3,434.0	3,351.0	3,423.6	3,495.5	3,635.8
American Electric Power												
Deliveries	324.0	330.0	354.0	354.0	349.0	349.0	300.0	300.0	300.0	300.0	300.0	310.0
Consumption	319.0	384.0	309.0	359.0	410.0	320.0	410.0	367.0	335.0	197.0	202.0	319.0
Stocks	1,101.0	1,047.0	1,092.0	1,087.0	1,072.0	1,182.0	1,072.0	1,005.0	970.0	1,073.0	1,171.0	1,162.0
Cincinnati Gas & Electric												
Deliveries	610.4	700.0	650.0	570.0	600.0	600.0	600.0	450.0	550.0	570.0	550.0	600.0
Consumption	589.6	599.2	524.9	471.7	515.9	585.1	624.8	456.9	540.1	473.3	455.3	575.4
Stocks	1,200.0	1,300.8	1,425.9	1,524.2	1,608.3	1,623.2	1,598.4	1,591.2	1,601.4	1,698.1	1,792.8	1,817.4
Cleveland Electric Illuminating												
Deliveries	426.9	442.9	471.5	488.2	453.6	497.3	506.3	473.2	469.5	417.7	460.1	480.4
Consumption	426.9	442.9	471.5	488.2	453.6	497.3	506.3	473.2	469.5	417.7	441.1	461.4
Stocks	847.4	847.4	847.4	847.4	847.4	847.4	847.4	847.4	847.4	847.4	866.4	885.4
Dayton Power & Light												
Deliveries	590.0	594.0	502.0	569.0	673.0	635.0	657.0	612.0	775.0	735.0	706.0	718.0
Consumption	590.0	594.0	502.0	540.0	562.0	641.0	674.0	618.0	545.0	542.0	570.0	574.0
Stocks	1,307.0	1,307.0	1,307.0	1,336.0	1,447.0	1,441.0	1,425.0	1,419.0	1,647.0	1,840.0	1,976.0	2,120.0
Ohio Edison System												
Deliveries	893.8	885.2	882.8	856.3	847.4	852.3	1,063.8	923.6	883.6	799.6	813.9	895.1
Consumption	987.0	1,006.5	896.0	842.2	915.7	951.6	1,063.8	923.6	883.6	799.6	813.9	895.1
Stocks	2,038.5	1,917.2	1,904.1	1,918.2	1,849.8	1,750.6	1,750.6	1,750.6	1,750.6	1,750.6	1,750.6	1,750.6
Ohio Valley Electric Corp.												
Deliveries	555.0	560.0	513.0	521.0	526.0	547.0	559.0	506.0	530.0	535.0	568.0	528.0
Consumption	596.0	601.0	554.0	562.0	567.0	588.0	600.0	547.0	571.0	576.0	609.0	569.0
Stocks	1,836.0	1,795.0	1,754.0	1,713.0	1,672.0	1,631.0	1,590.0	1,549.0	1,508.0	1,467.0	1,426.0	1,385.0
Toledo Edison Co.												
Deliveries	115.0	201.0	173.0	150.0	141.0	145.0	184.0	174.0	166.0	142.0	135.0	144.0
Consumption	156.0	218.0	199.0	127.0	141.0	150.0	184.0	174.0	166.0	142.0	135.0	144.0
Stocks	403.0	386.0	360.0	383.0	383.0	378.0	378.0	378.0	378.0	378.0	378.0	378.0

Source: ODOE Form SE-3A.

Table 7-B. Ohio Electric Utilities' Projected Deliveries, Consumption, and Stocks of Oil for Electricity Consumption, 1983-1984 (1000 Bbls.)

	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	April	May	June
Allegheny Power System												
Deliveries	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Consumption	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Stocks	342.2	342.2	342.2	342.2	342.2	342.2	342.2	342.2	342.2	342.2	342.2	342.2
American Electric Power												
Deliveries	5.0	7.0	6.0	4.0	7.0	5.0	6.0	5.0	4.0	5.0	5.0	5.0
Consumption	5.0	7.9	6.0	4.0	7.0	5.0	6.0	5.0	4.0	5.0	5.0	5.0
Stocks	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Cincinnati Gas & Electric												
Deliveries	8.0	40.0	8.0	40.0	8.0	8.0	16.0	8.0	8.0	8.0	8.0	32.0
Consumption	8.9	34.4	11.1	39.2	6.6	10.7	17.5	6.5	7.6	6.0	8.1	31.9
Stocks	79.7	85.3	82.2	83.0	84.4	81.7	80.2	81.7	82.1	24.0	84.0	84.1
Cleveland Electric Illuminating												
Deliveries	30.2	13.1	39.6	29.6	20.2	10.3	14.5	8.1	5.0	7.9	16.7	15.9
Consumption	30.2	13.1	39.6	29.6	20.2	10.3	14.5	8.1	5.0	7.9	16.7	15.9
Stocks	365.9	365.9	365.9	365.9	365.9	365.9	365.9	365.9	365.9	365.9	365.9	365.9
Dayton Power and Light												
Deliveries	2.0	2.0	21.0	3.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Consumption	5.0	5.0	6.0	9.0	9.0	28.0	51.0	45.0	11.0	6.0	4.0	6.0
Stocks	397.0	395.0	410.0	403.0	396.0	370.0	322.0	278.0	410.0	406.0	404.0	400.0
Ohio Edison												
Deliveries	3.7	4.2	0.0	2.1	1.0	.7	0.0	0.0	0.0	0.0	0.0	0.0
Consumption	3.7	4.2	0.0	2.1	1.0	.7	0.0	0.0	0.0	0.0	0.0	0.0
Stocks	40.3	40.3	40.3	40.3	40.3	40.3	40.3	40.3	40.3	40.0	40.3	40.3
Ohio Valley Electric Corp.												
Deliveries	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
Consumption	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
Stocks	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Toledo Edison												
Deliveries	153.0	323.0	194.0	233.0	361.0	326.0	158.0	231.0	274.0	152.0	106.0	139.0
Consumption	153.0	323.0	194.0	233.0	361.0	326.0	158.0	231.0	274.0	152.0	106.0	139.0
Stocks	990.0	990.0	990.0	990.0	990.0	990.0	990.0	990.0	990.0	990.0	990.0	990.0

Source: ODOE Form SE-3A.

Table 7-C. Electric Utilities Demand Forecast, Fuel Assessment, and Inventory Model
(July 1983 - June 1984)

ALLEGHENY POWER SYSTEM

	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	TOTAL
DEMAND FORECAST (GWH)	2597.1	2687.1	2505.1	2649.0	2674.5	2966.3	3388.0	2941.0	2944.4	2621.1	2661.7	2635.9	33271.
EST DEMAND GEN BY COAL	2882.8	2982.7	2780.7	2940.4	2968.7	3292.6	3760.7	3264.6	3268.3	3092.9	3140.8	3110.3	37485.
EST DEMAND GEN BY OIL	20.8	16.1	12.5	10.6	16.0	11.9	27.1	5.9	14.7	10.5	8.0	7.9	162.
PROJ DAILY CONSUMPTION													
COAL (KTONS)	39.49	39.53	36.86	40.27	39.35	45.10	49.85	43.27	46.31	41.00	43.02	41.23	
OIL (KBBL)	1.79	1.34	1.04	0.91	1.34	1.02	2.26	0.49	1.31	0.87	0.69	0.66	
COAL DELIVERIES (KTONS)	1318.2	1318.2	1318.2	1318.2	1318.2	1318.2	1288.8	1288.8	1288.8	1288.8	1288.8	1288.8	15642.
OIL DELIVERIES (KBBL)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
END OF MONTH STOCK													
COAL (KTONS)	3774.5	3867.1	4042.7	4152.6	4251.0	4216.2	3959.8	3907.2	3853.1	3871.1	3869.4	3880.2	
OIL (KBBL)	288.6	247.0	214.7	187.3	145.9	115.3	45.4	30.2	-7.8	-34.9	-55.5	-75.9	
NUMBER OF DAYS SUPPLY													
COAL	97.	99.	96.	93.	92.	91.	91.	90.	92.	93.	94.	94.	
OIL	238.	207.	176.	146.	115.	85.	54.	23.	-9.	-51.	-84.	-115.	

AMERICAN ELECTRIC POWER SYSTEM

	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	TOTAL
DEMAND FORECAST (GWH)	6450.0	6618.0	6060.0	6294.0	6589.0	7315.0	8096.0	7367.0	7120.0	6235.0	6104.0	6198.0	80445.
EST DEMAND GEN BY COAL	6772.5	8007.8	6847.8	6797.5	7445.6	8265.9	XXXXXX	8472.0	8116.8	6546.7	5212.8	5293.1	87898.
EST DEMAND GEN BY OIL	0.0	0.0	6.1	0.0	6.6	0.0	8.1	0.0	7.1	0.0	6.1	0.0	34.
PROJ DAILY CONSUMPTION													
COAL (KTONS)	101.23	115.83	99.05	101.60	107.70	123.55	146.38	122.54	125.50	94.70	77.91	76.56	
OIL (KBBL)	0.0	0.0	3.40	0.0	3.70	0.0	4.55	0.0	4.27	0.0	3.54	0.0	
COAL DELIVERIES (KTONS)	2606.0	3512.0	3224.0	3226.0	3200.0	3314.0	3461.0	3455.0	3438.0	3311.0	3532.0	2880.0	39159.
OIL DELIVERIES (KBBL)	47.00	50.00	41.00	40.00	44.00	51.00	51.00	52.00	43.00	47.00	45.00	44.00	555.00
END OF MONTH STOCK													
COAL (KTONS)	XXXXXX	XXXXXX	XXXXXX	XXXXXX	XXXXXX	XXXXXX	XXXXXX	XXXXXX	XXXXXX	XXXXXX	XXXXXX	XXXXXX	
OIL (KBBL)	254.0	304.0	239.5	279.5	208.9	259.9	170.0	222.0	141.0	188.0	126.8	170.8	
NUMBER OF DAYS SUPPLY													
COAL	124.	122.	113.	108.	102.	101.	110.	124.	140.	152.	168.	175.	
OIL	160.	140.	118.	129.	108.	90.	104.	88.	122.	91.	61.	30.	

Note: XXXX indicates value greater then 9,999.9.

Table 7-C. Electric Utilities Demand Forecast, Fuel Assessment, and Inventory Model (Cont'd.)
(July 1983 - June 1984)

CAPCO GROUP (EXCLUDING DUQUESNE LIGHT COMPANY)

	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	TOTAL
DEMAND FORECAST (GWH)	4162.7	4237.0	3920.5	4021.4	4022.2	4272.4	4586.5	4231.7	4317.1	3908.3	3974.6	4061.1	49715.5
EST DEMAND GEN BY COAL	2874.2	3034.5	2865.3	2686.1	2581.7	2572.5	2801.8	2561.0	2347.5	1985.0	2173.0	2260.3	30742.8
EST DEMAND GEN BY OIL	70.3	89.2	53.3	73.6	99.4	120.2	96.8	55.3	69.6	64.8	59.5	61.8	913.7
PROJ DAILY CONSUMPTION													
COAL (KTONS)	43.27	44.21	41.75	40.44	37.62	38.73	40.82	37.31	36.56	28.92	32.72	32.93	
OIL (KBBL)	5.55	6.81	4.07	5.81	7.59	9.48	7.39	4.23	5.68	4.94	4.69	4.72	
COAL DELIVERIES (KTONS)	1435.7	1529.1	1527.3	1494.5	1441.9	1494.6	1754.1	1570.8	1519.1	1359.3	1409.0	1519.5	18055.1
OIL DELIVERIES (KBBL)	186.88	340.24	233.64	264.76	382.15	337.02	172.50	239.07	279.02	159.90	122.67	154.88	2872.73
END OF MONTH STOCK													
COAL (KTONS)	3560.6	3719.0	3952.1	4233.4	4509.2	4841.9	5330.4	5744.4	6203.2	6665.9	7093.4	7591.9	
OIL (KBBL)	1416.7	1545.8	1653.3	1743.8	1890.7	1943.2	1886.6	1994.7	2108.9	2115.5	2097.4	2106.1	
NUMBER OF DAYS SUPPLY													
COAL	84.	93.	101.	109.	117.	136.	159.	175.	192.	203.	215.	231.	
OIL	219.	254.	273.	299.	349.	390.	396.	416.	446.	449.	445.	447.	

CINCINNATI GAS & ELECTRIC

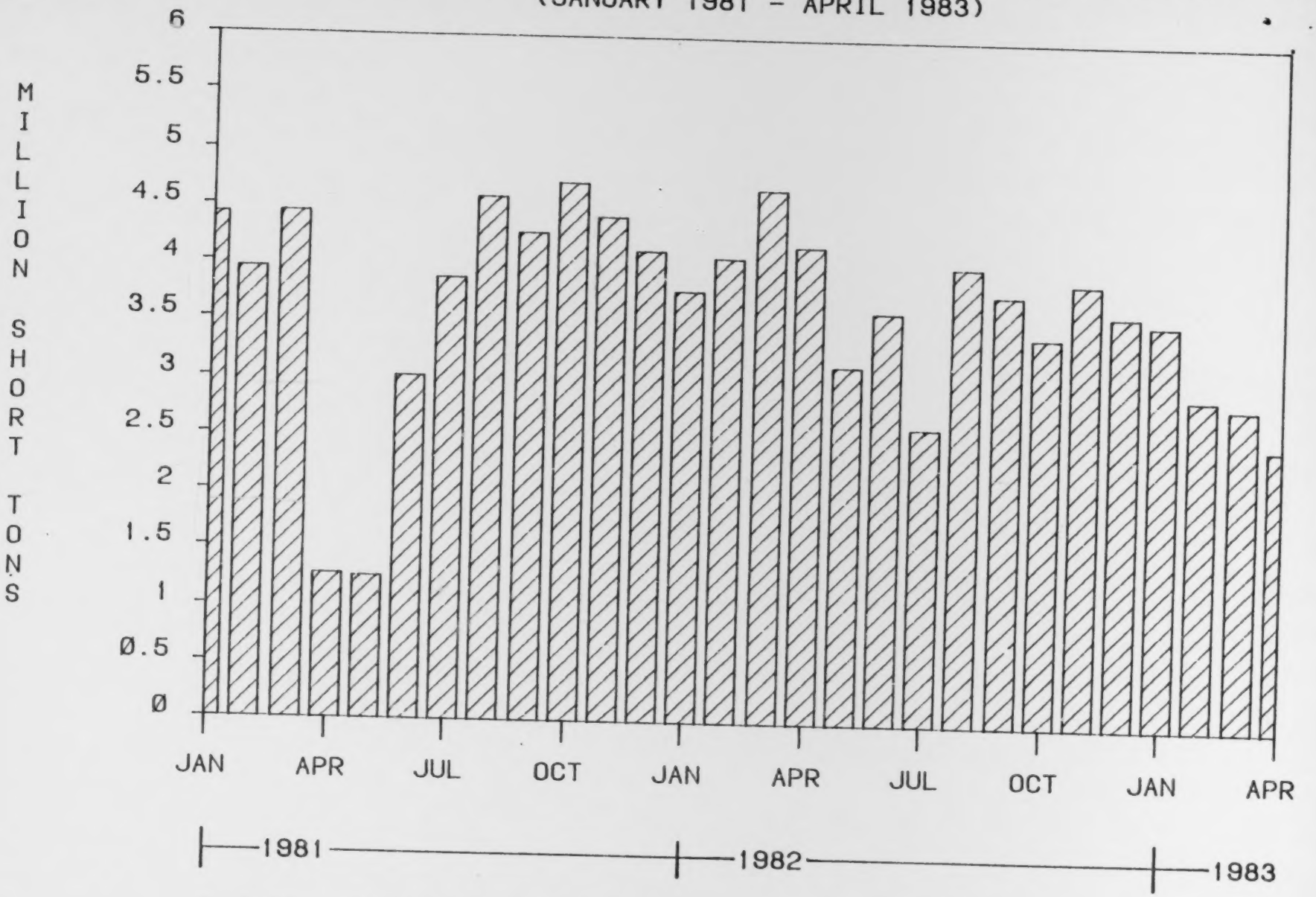
	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	TOTAL
DEMAND FORECAST (GWH)	1498.3	1522.8	1282.9	1209.9	1255.1	1413.0	1461.9	1332.5	1352.2	1171.9	1293.8	1439.6	16233.9
EST DEMAND GEN BY COAL	1213.6	1233.5	1039.2	980.0	1066.8	1201.0	1242.6	1132.6	946.5	820.3	905.6	1007.7	12789.6
EST DEMAND GEN BY OIL	7.5	6.1	9.0	6.0	7.5	7.1	7.3	8.0	5.4	5.9	7.8	5.8	83.3
PROJ DAILY CONSUMPTION													
COAL (KTONS)	18.79	18.48	15.57	15.17	15.98	18.60	18.62	16.97	15.16	12.29	14.02	15.10	
OIL (KBBL)	0.97	0.76	1.12	0.78	0.94	0.91	0.91	1.00	0.72	0.73	1.00	0.72	
COAL DELIVERIES (KTONS)	610.4	700.0	650.0	570.0	600.0	600.0	600.0	450.0	550.0	570.0	550.0	600.0	7050.4
OIL DELIVERIES (KBBL)	8.00	40.00	8.00	40.00	8.00	8.00	16.00	8.00	8.00	8.00	8.00	32.00	192.00
END OF MONTH STOCK													
COAL (KTONS)	1225.9	1352.9	1520.2	1635.0	1739.5	1781.6	1804.4	1728.3	1838.6	2027.6	2156.9	2288.8	
OIL (KBBL)	59.5	75.9	49.1	65.6	44.4	25.0	12.6	-10.4	-23.4	-38.1	-60.2	-50.6	
NUMBER OF DAYS SUPPLY													
COAL	73.	87.	92.	92.	97.	110.	123.	122.	130.	136.	143.	152.	
OIL	63.	80.	57.	71.	49.	27.	13.	-14.	-32.	-38.	-84.	-70.	

Table 7-C. Electric Utilities Demand Forecast, Fuel Assessment, and Inventory Model (Cont'd.)
(July 1983 - June 1984)

DAYTON POWER & LIGHT

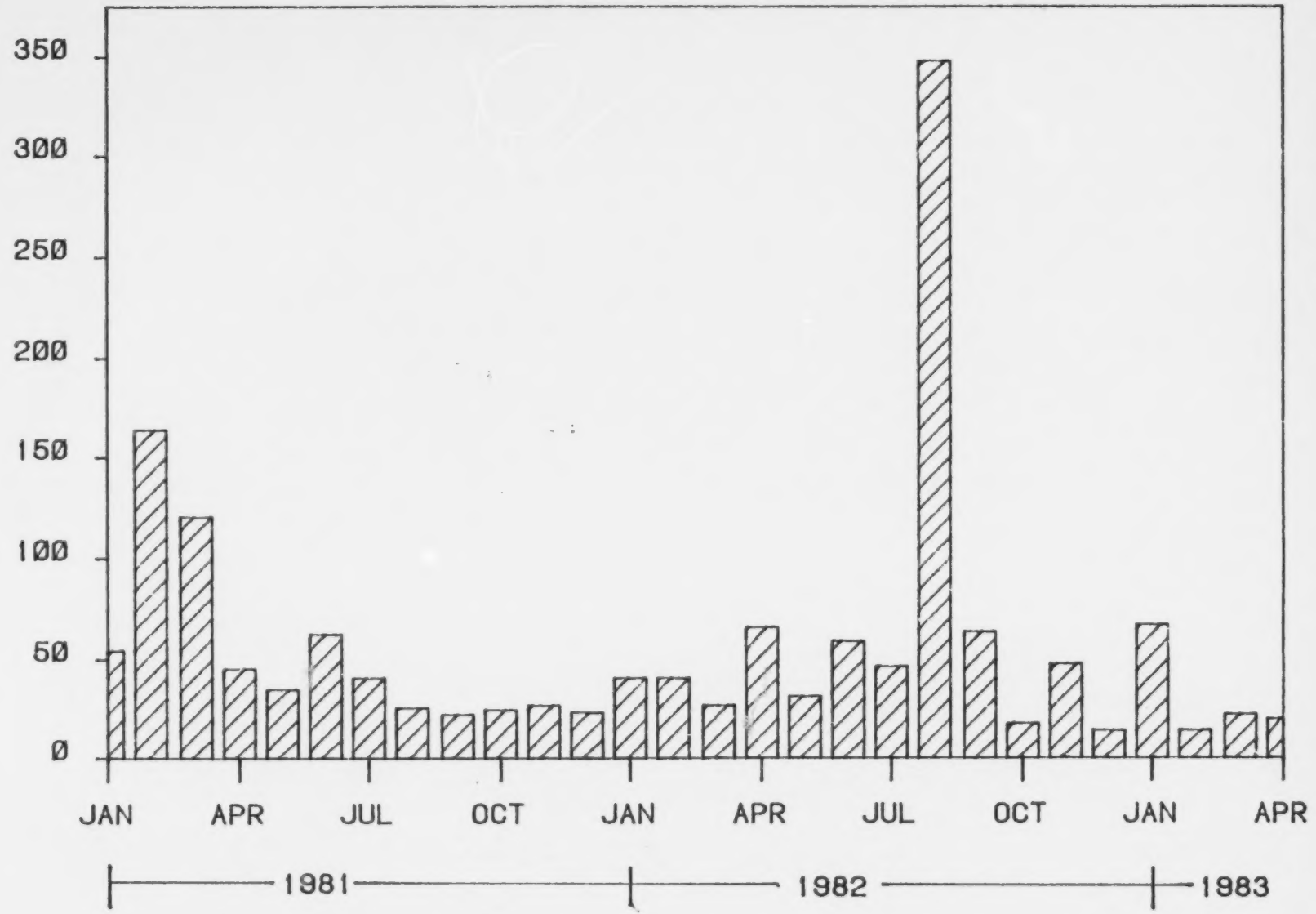
	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	TOTAL
DEMAND FORECAST (GWH)	915.8	923.4	832.7	875.8	912.3	1008.9	1102.5	991.5	963.2	835.5	824.8	875.0	11061.4
EST DEMAND GEN BY COAL	961.6	969.6	832.7	875.8	957.9	1059.3	1245.8	1011.3	943.9	668.4	643.4	656.3	10826.0
EST DEMAND GEN BY OIL	21.1	24.0	19.2	17.5	8.2	7.1	6.6	5.0	7.7	5.8	5.8	6.1	134.0
PROJ DAILY CONSUMPTION													
COAL (KTONS)	14.67	14.32	12.30	13.37	14.15	16.17	18.40	14.93	14.90	9.87	9.82	9.69	
OIL (KBBL)	1.96	2.16	1.72	1.63	0.74	0.66	0.59	0.45	0.74	0.53	0.54	0.55	
COAL DELIVERIES (KTONS)	590.0	594.0	502.0	569.0	673.0	635.0	657.0	612.0	775.0	735.0	706.0	718.0	7766.0
OIL DELIVERIES (KBBL)	2.00	2.00	21.00	3.00	2.00	2.00	2.00	2.00	142.00	2.00	2.00	2.00	184.00
END OF MONTH STOCK													
COAL (KTONS)	1456.8	1606.9	1727.7	1895.7	2130.2	2280.2	2366.9	2516.0	2858.8	3287.8	3699.3	4116.9	
OIL (KBBL)	343.3	278.4	246.0	200.2	179.3	161.6	145.2	133.4	253.9	239.6	225.5	210.4	
NUMBER OF DAYS SUPPLY													
COAL	108.	116.	113.	119.	139.	174.	211.	243.	294.	339.	382.	425.	
OIL	388.	360.	367.	343.	315.	289.	262.	234.	463.	436.	409.	382.	

FIGURE 2. MONTHLY COAL DELIVERIES TO POWER PLANTS IN OHIO
(JANUARY 1981 - APRIL 1983)



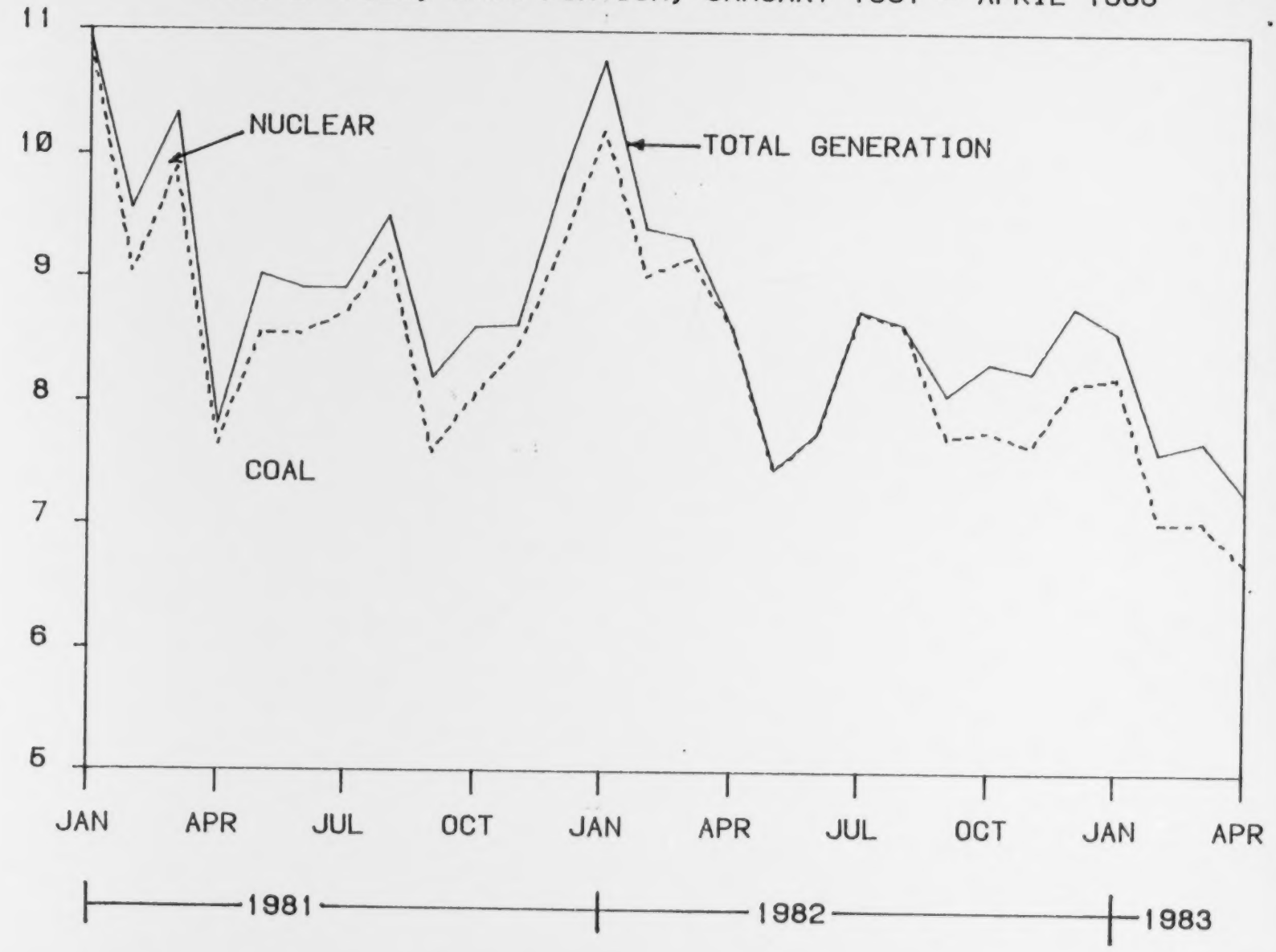
SOURCE: OHIO DIVISION OF ENERGY

FIGURE 3. MONTHLY OIL DELIVERIES TO POWER PLANTS IN OHIO
(JANUARY 1981 - APRIL 1983)



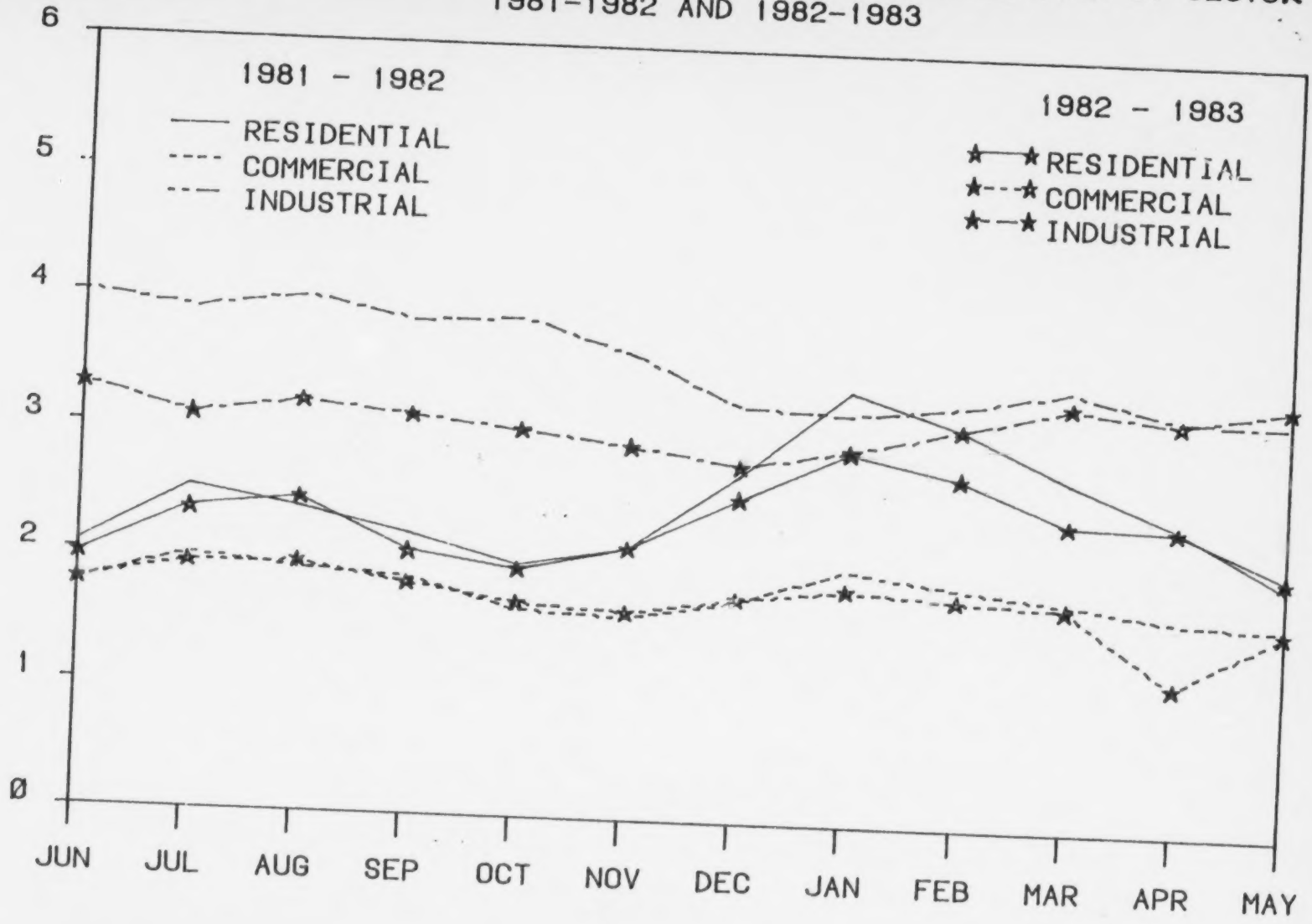
SOURCE: OHIO DIVISION OF ENERGY.

FIG. 4. MAJOR OHIO ELECTRIC UTILITIES NET GENERATION BY TYPE OF FUEL, OHIO PORTION, JANUARY 1981 - APRIL 1983



SOURCE: OHIO DIVISION OF ENERGY

FIG. 5A. COMPARISON OF OHIO ELECTRICITY CONSUMPTION BY SECTOR
1981-1982 AND 1982-1983



SOURCE: OHIO DIVISION OF ENERGY

FIGURE 5B. OHIO TOTAL ELECTRICITY CONSUMPTION,
1981-1982 AND 1982-1983

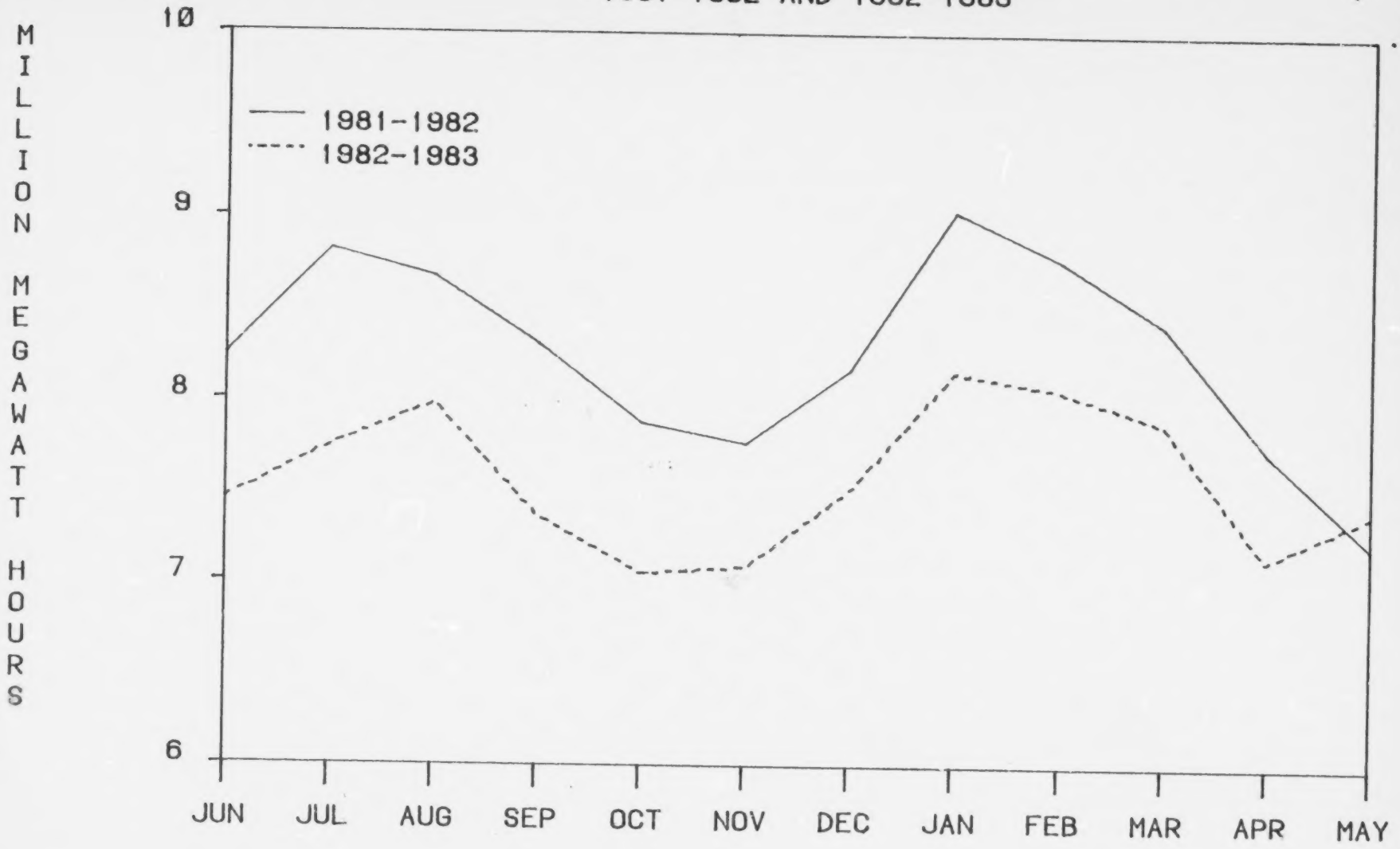
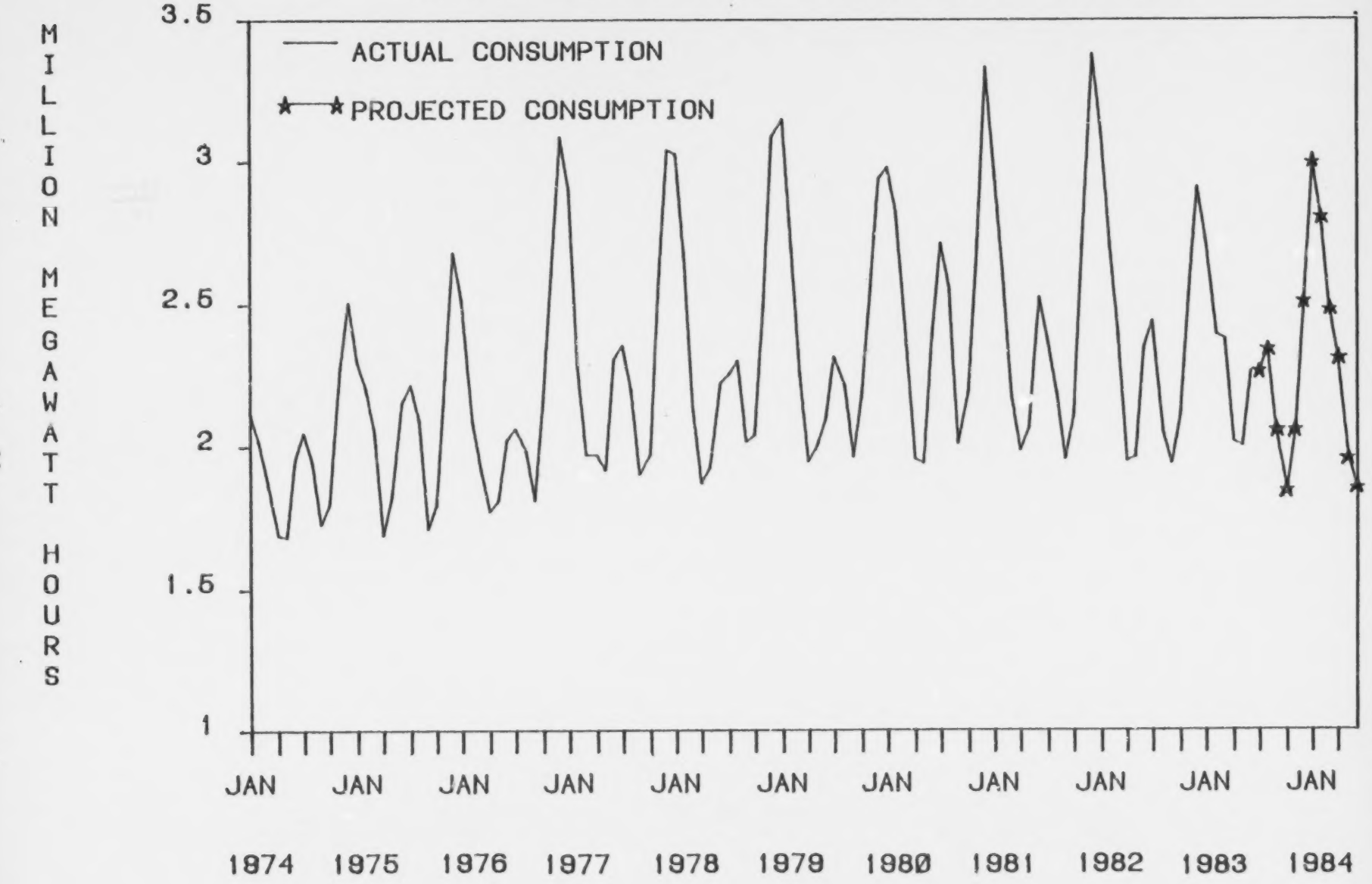
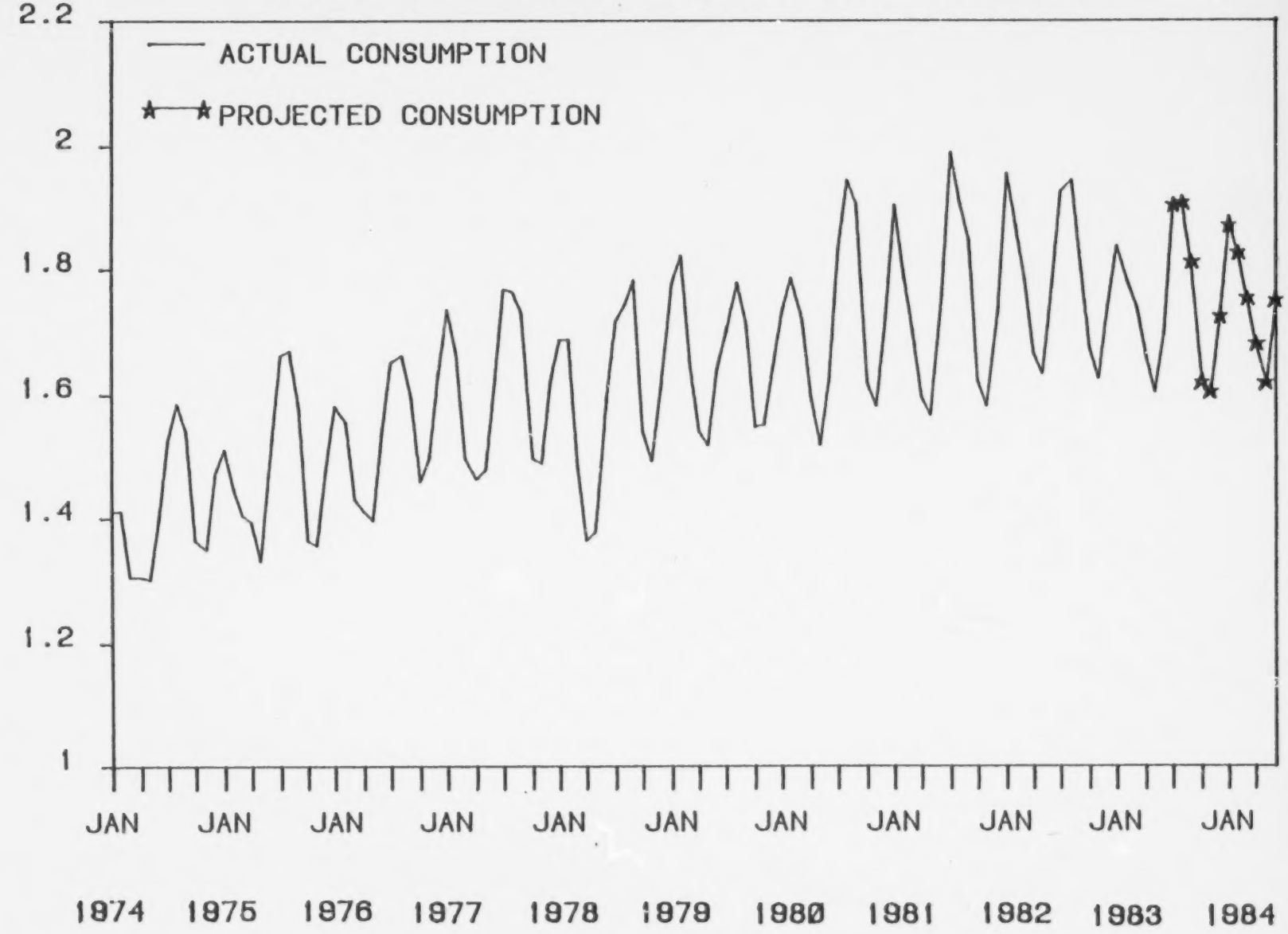


FIG. 6. MONTHLY OHIO RESIDENTIAL ELECTRICITY CONSUMPTION
ACTUAL AND PROJECTED, JANUARY 1974 - JUNE 1984



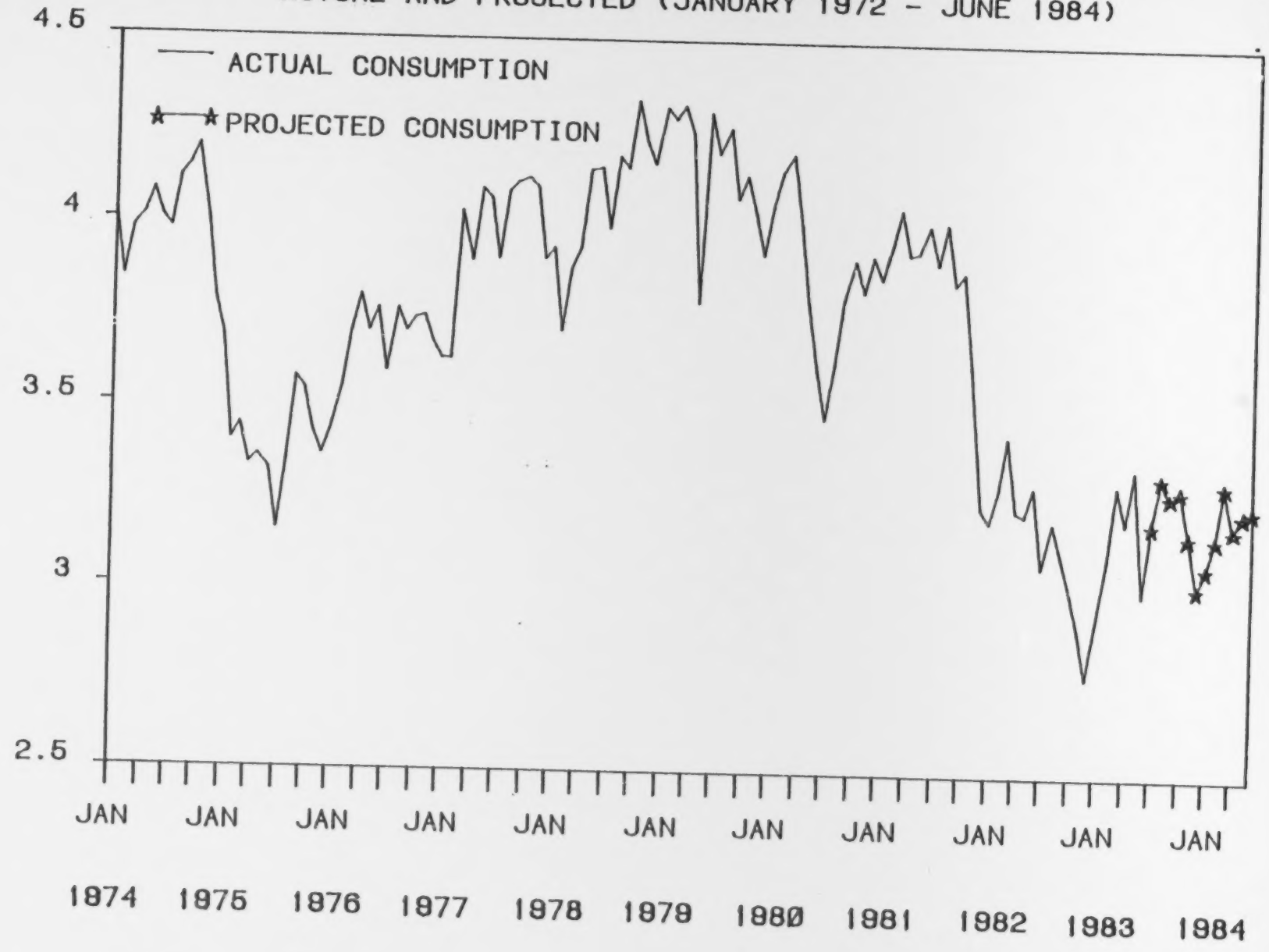
SOURCE: OHIO ELECTRIC UTILITY INSTITUTE AND THE OHIO DIVISION OF ENERGY, (EXCLUDING OVEC)

FIG. 7. MONTHLY OHIO COMMERCIAL ELECTRICITY CONSUMPTION
ACTUAL AND PROJECTED (JANUARY 1974 - JUNE 1984)



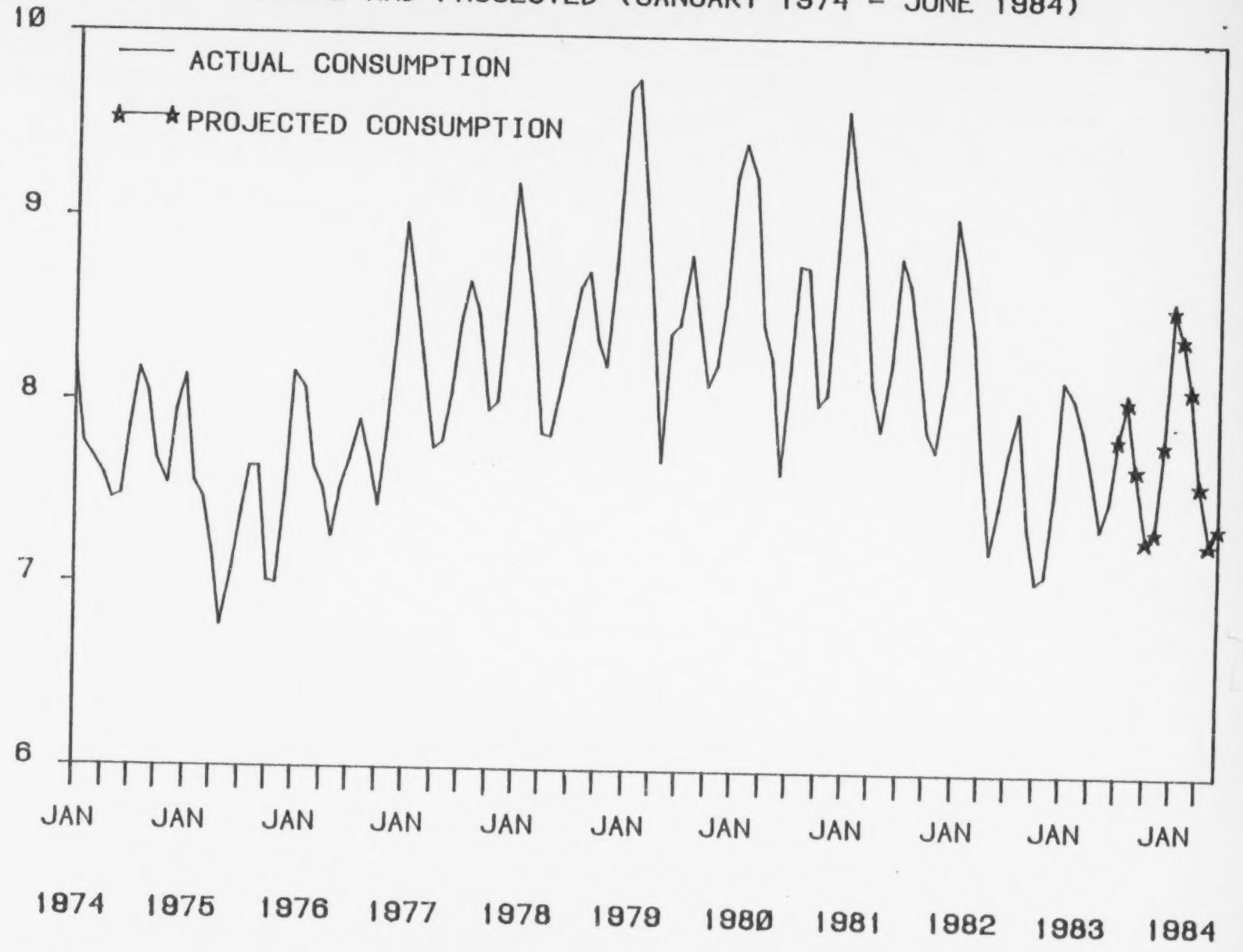
SOURCE: OHIO ELECTRIC UTILITY INSTITUTE AND THE OHIO DIVISION OF ENERGY, (EXCLUDING OVEC)

FIG. 8. MONTHLY OHIO INDUSTRIAL ELECTRICITY CONSUMPTION
ACTUAL AND PROJECTED (JANUARY 1972 - JUNE 1984)



SOURCE: OHIO ELECTRIC UTILITY INSTITUTE AND THE OHIO DIVISION OF ENERGY, (EXCLUDING OVEC)

FIG. 9. TOTAL MONTHLY ELECTRICITY CONSUMPTION
ACTUAL AND PROJECTED (JANUARY 1974 - JUNE 1984)



SOURCE: OHIO ELECTRIC UTILITY INSTITUTE AND THE OHIO DIVISION OF ENERGY, (EXCLUDING OVEC)

NATURAL GAS

This section presents an overview of the natural gas market in Ohio. First, the distribution and supply system is described followed by an account of historical gas demand. Next, a quantitative analysis of historical gas demand patterns provides the basis for forecasts of demand. A summary of utilities' forecasts and a presentation of the Ohio Division of Energy forecast provide a 12-month outlook. Finally, alternative fuel use is briefly discussed.

Distribution and Supply

Service shares of the gas distribution companies operating in Ohio are presented in Table 8 for the annual period May 1982 to April 1983. During this period, the four large distribution companies--Cincinnati Gas and Electric, Columbia Gas of Ohio, Dayton Power and Light, and East Ohio Gas--jointly distributed 93.45 percent of the reported natural gas requirements of the state. The four intermediate companies--National Gas and Oil, Ohio Gas, River Gas, and West Ohio Gas--distributed an additional 4.68 percent. The remaining 1.87 percent of the reported natural gas requirements were distributed by 18 small utilities and two municipal utilities. The figures presented in Table 8 do not include self-help natural gas, which is gas obtained by a customer for his own use. Total requirements of 736,774 MMCF reported in Table 8 represent a reduction of approximately 21 percent in the

distribution of natural gas compared to the same period last year. The magnitude of the reduction is due to the severity of the recession of 1982, and the very mild 1982-83 heating season.

The major sources of supplies of natural gas to the state of Ohio are presented in Table 9, and the quantities supplied are shown graphically in Figure 10. From May 1982 through April 1983, the eight major gas distribution companies of Ohio, which together account for 98.12 percent of the reported natural gas distribution in the state, procured 722,931 MMCF of natural gas to meet Ohio's requirements. This represents a 21.15 percent decrease in the supplies of natural gas to Ohio compared to the same period last year. This decline reflects the reaction of Ohio's gas distribution companies to the declining natural gas requirements of residential, commercial, and especially industrial customers in Ohio.

Of the 722,931 MMCF total procurement, interstate gas purchases and synthetic natural gas (SNG) comprise 91.91 percent (See Table 9). Purchases of Ohio gas comprise the remaining 8.09 percent of the total. The 58,471 MMCF of Ohio production of natural gas purchased by the eight major gas utilities from May 1982 to April 1983 represents a 4.0 percent increase from their purchases of Ohio's product during the preceding annual period. This amount corresponds to approximately 42.3 percent of the state's total production of 138,391 MMCF in calendar year 1982.

Domestic interstate gas is the major source of supply for Ohio. Columbia Gas Transmission Corporation and Consolidated Gas Supply Corporation provided 67.52 percent of the natural gas supplied to the eight major Ohio gas distribution companies from

May 1982 through April 1983. No liquified natural gas (LNG) imports were included in these supplies, nor are anticipated by either company as a source of supply for the 1983-84 heating season.

Historical Behavior of Sectoral Requirements

A discussion of the historical patterns of sectoral gas requirements is included in Appendix B.

Utility Forecasts: 12-Month Outlook

On the basis of utilities' projected natural gas supplies, and the historically established trends in natural gas requirements, the outlook for the next 12 months indicates no supply shortages under normal or 10 percent colder than normal weather conditions, concurrent with projected price increases and a moderate economic recovery.

Aggregate supply and demand projections of the eight major utilities, as presented in Table 16 and Figure 22, indicate a 0.1 percent annual surplus of natural gas supplies over requirements. All eight utilities project supply to be in excess of requirements during the 1983-84 heating season. Supply and demand projections of the individual utilities, as submitted in their "Monthly Reports of Supply and Demand of Natural Gas," are summarized in Appendix B, Table B-9.

Because natural gas is the primary source of space heating for the residential and commercial sectors, over 60 percent of the natural gas consumed in Ohio is used during the heating season.

Table 17 shows the actual aggregate monthly requirements for the eight major utilities from May 1982 through April 1983, along with the utilities' consolidated projections for the May 1983 through April 1984 period. The forecast shows increases in demand in all sectors. Figure 23 is a graphic representation of the utilities' consolidated sectoral projections for the forecast period. Overall, the forecast total annual gas requirement shows an increase of 11.2 percent relative to the same 12-month period last year.

The Ohio Division of Energy will be monitoring developments in the supplies and requirements of natural gas throughout the rest of the year and will take appropriate action if a critical situation develops. However, Ohio Division of Energy's current conclusion is that prevailing conditions portend no shortages or curtailments of natural gas during the 1983-84 heating season.

Ohio Division of Energy Independent Forecast

Methodology

The independent natural gas demand forecasts prepared by Ohio Division of Energy for the eight major gas utilities serving Ohio are based upon time series analyses of sectoral requirements for each individual month of the year, between January 1970 and April 1983, adjusted for long-term annual trends or severe climatic conditions.

Time series models, with adjustments, yield projections that possess statistical properties that are at least as accurate as alternative short-term forecasting techniques. They also offer the added flexibility of being able to produce updated forecasts

every time the most recent actual monthly requirements are reported to Ohio Division of Energy. The utilization of an adjusted time series methodology is designed to provide a double check, thus reducing forecasting error for a more accurate and decisive diagnosis of energy requirements of the state.

Results and Outlook

The results obtained on the basis of this methodology for the 1983-84 heating season are presented in Tables 18 through 22. Since the summary results presented in Table 18 indicate a potential surplus of 1.11 percent in the case of a 10 percent colder than normal winter, the use of current supply or storage capacities of Ohio natural gas utilities would be necessary only if a more severe winter occurs. However, if industrial demand improves in the second half of 1983, the surplus may not be as great as projected.

Any unexpected changes in the short-term behavior of residential and commercial requirements would mainly be associated with variations in the severity of the heating season, and the rate of increase in natural gas prices. Given conservation efforts and increasing supplies of natural gas, dramatic changes in the long-term behavior of residential and commercial natural gas requirements are not anticipated in the near future. Long-term residential and commercial sector requirements are expected to stabilize near 1978 or 1979 levels as the economy recovers from the recession. Major climatic deviations, such as a repeat of the winter of 1976, may create temporary increases in

residential or commercial demand, but sustained growth of natural gas consumption is not projected. Even if real per-capita incomes increase substantially, gas consumption is expected to remain stable, since higher prices will discourage high levels of demand. The long-term effects of the recent recession, if any, should be discernible in the next one or two years.

Industrial sector demand is expected to continue its decline, primarily since industrial customers are switching to residual fuel oil as an economical energy source. Rapid increases in gas prices are bringing oil into the picture as a competitively priced fuel. Many industrial and large commercial firms are developing dual fuel capability (oil and gas) in order to respond to possible unforeseen price fluctuations. However, many small industrial and commercial firms, as well as residential customers, will not have fuel-switching capability. This will no doubt increase conservation efforts as gas prices continue to escalate.

Based upon a 10 percent colder than normal weather scenario, and accelerated economic recovery in the last quarter of 1983, Ohio Division of Energy forecasts an adequate gas supply combined with slightly increasing or stabilizing demand for the 12-month period.

Independent forecasts of the four large utilities' total requirements for the annual period July 1983-June 1984, are presented in Appendix B, Tables B-1 through B-4. In Tables B-5 through B-8, we present 12-month forecasts of sectoral end-use requirements for the state as a whole. The forecasts included in Tables B-5 through B-8 have also been adjusted for the long-term historical trends observed in sectoral natural gas requirements in Ohio.

There have been no natural gas curtailments in Ohio since 1978, and neither Ohio gas utilities nor the gas pipeline companies project any curtailments for the July 1983 through June 1984 period. However, in the event of a projected shortage, it is anticipated that fuel-switching capability of industrial and large commercial users would be accelerated. Detailed emergency plans that describe strategies to respond to fuel supply shortfalls are on file at Ohio Division of Energy.

Table 8. Total Natural Gas Requirements of All Commercial Utilities in Ohio, May 1982 through April 1983 (MMCF)

	(1) Sales to All End Users	(2) Storage (In)	Total Requirement (1+2)	Percent of Total Ohio Requirement
Cincinnati Gas and Electric Co.	71,885	0	71,885	9.76
Columbia Gas of Ohio	244,877	0	244,877	33.24
Dayton Power and Light Co.	47,562	0	47,562	6.46
East Ohio Gas Co.	260,643	63,499	324,142	44.00
National Gas and Oil Co.	12,837	1,573	14,410	1.96
Ohio Gas Co.	5,797	59	5,856	0.80
River Gas Co.	3,590	0	3,590	0.49
West Ohio Gas Co.	10,608	0	10,608	1.44
Total Eight Major Utilities	657,799	65,131	722,930	98.12
Total Small Utilities	7,416	0	7,416	1.01
Municipal Utilities	6,428	0	6,428	.87
TOTAL ALL UTILITIES	671,643	65,131	736,774	100.00

Source: ODOD Form SG-2 and SG-4.

Table 9. Sources of Natural Gas Supplies to the Eight Major Gas Utilities, May 1982 through April 1983

	Supply	Percent of Total	Rank
Columbia Gas Transmission Corp.	330,937	45.78	1
Consolidated Gas Supply Corp.	157,182	21.74	2
Lawrenceburg Gas	3,169	.44	8
Michigan/Wisconsin Pipeline Co.	1,195	0.17	10
Panhandle Eastern Pipeline Co.	64,275	8.89	4
Tennessee Gas Pipeline Co.	1,423	0.20	9
Texas Eastern Transmission Corp.	7,015	0.97	7
Texas Gas Transmission Corp.	229	0.03	11
Green Springs (SNG)	33,032	4.57	6
Storage/Propane[1]	66,260	9.17	3
Other	-257	-0.04	
Total SNG and Out-of-State	664,460	91.91	
Ohio Product	58,471	8.09	5
TOTAL	722,931		

Note: [1]Gas in storage represents a source during the period under consideration. Figure is elevated because Cincinnati Gas and Electric maintains propane in storage for peak-sharing.

Source: Ohio Division of Energy Form SG-2.

Table 10. Comparison Between One Year of Actual and Forecast Supply for Eight Major Ohio Gas Utilities by Source (MMCF)

MO/YR	COLUMBIA GAS	CONSOLID-ATED GAS	LAWREN-CEBURG	MICH. MISC.	PANHANDLE EAST	TENN. GAS	TEXAS EASTERN	TEXAS GAS	EMERG GAS	OHIO PRODUCT	SNG	STORAGE/ PROPANE	OTHER	TOTAL SUPPLIES
5/83	24693	10951	263	38	6211	150	590	15	0	4552	2320	230	-10	58003
5/82	17243	12295	260	20	5986	135	571	8	0	4570	2076	274	-22	43416
	43.2%	54.1%	1.2%	90.0%	3.8%	11.1%	3.3%	87.5%	0.0%	-0.4%	11.8%	-16.1%	54.5%	33.6%
6/83	18919	13831	255	21	5803	150	570	10	0	4546	1826	165	-60	46036
6/82	15661	11264	257	10	5866	89	571	7	0	4732	1633	162	-42	40210
	20.8%	22.8%	-0.8%	110.0%	-1.1%	68.5%	-0.2%	42.9%	0.0%	-3.9%	11.8%	1.9%	-42.9%	14.5%
7/83	13484	11851	264	20	6144	150	590	9	0	4510	1626	170	-35	38783
7/82	14010	9349	267	7	5946	113	561	6	0	4725	1454	204	38	36680
	-3.8%	26.8%	-1.1%	185.7%	3.3%	32.7%	5.2%	50.0%	0.0%	-4.6%	11.8%	-16.7%	-192.1%	5.7%
8/83	14880	11590	264	20	6106	150	590	9	0	4548	1500	165	-35	39787
8/82	13868	9793	256	15	5966	116	536	7	0	4789	1479	169	-53	36941
	7.3%	18.3%	3.1%	33.3%	2.3%	29.3%	10.1%	28.6%	0.0%	-5.0%	1.4%	-2.4%	34.0%	7.7%
9/83	15168	13618	255	29	5769	150	615	10	0	4717	1567	165	-50	42013
9/82	13224	10976	249	58	5275	111	593	7	0	4867	1596	1272	-19	38209
	14.7%	24.1%	2.4%	-50.0%	9.4%	35.1%	3.7%	42.9%	0.0%	-3.1%	-1.8%	-87.0%	-163.2%	10.0%
10/83	24621	19531	263	71	6164	150	635	15	0	4732	2153	170	-70	58435
10/82	21067	16178	252	110	5395	135	599	13	0	4694	2189	564	-6	51190
	16.9%	20.7%	4.4%	-35.5%	14.3%	11.1%	6.0%	15.4%	0.0%	0.8%	-1.6%	-69.9%	-1066.7%	14.2%
11/83	35557	10767	213	84	4655	150	615	26	0	4795	2478	11567	-90	70817
11/82	33091	9314	227	127	5366	126	582	24	0	5164	3238	8174	251	65684
	7.5%	15.6%	-6.2%	-33.9%	-13.3%	19.0%	5.7%	8.3%	0.0%	-7.1%	-23.5%	41.5%	-135.9%	7.8%
12/83	50358	17112	165	145	4962	150	635	41	0	4801	3249	15003	-70	96551
12/82	39953	9834	187	157	5788	118	631	30	0	5300	4254	12986	-331	78907
	26.0%	74.0%	-11.8%	-7.6%	-14.3%	27.1%	0.6%	36.7%	0.0%	-9.4%	-23.6%	15.5%	78.9%	22.4%
1/84	59474	19045	132	89	5307	150	635	51	0	4780	3442	18402	-60	111447
1/83	52604	15205	244	204	5011	125	672	43	0	5059	4543	18609	-76	102323
	12.9%	25.3%	-45.9%	-56.4%	5.9%	20.0%	-5.5%	18.6%	0.0%	-5.5%	-24.2%	-1.1%	21.1%	8.9%
2/84	50289	22911	107	162	4660	145	560	45	0	4752	3181	10888	63	97763
2/83	43857	15571	241	161	4424	135	558	35	0	4559	4279	12438	-80	86178
	14.7%	47.1%	-55.6%	0.6%	5.3%	7.4%	0.4%	28.6%	0.0%	4.2%	-25.7%	-12.5%	178.7%	13.4%
3/84	40987	16910	500	181	4834	158	630	36	0	5197	2818	8958	50	81259
3/83	35276	13803	271	165	4718	111	571	29	0	5139	3897	10498	3	74561
	16.2%	21.8%	84.5%	9.7%	2.5%	42.3%	10.3%	24.1%	0.0%	1.1%	-27.7%	-14.7%	1566.7%	9.0%
4/84	31568	21432	540	168	4531	110	610	22	0	5169	0	495	-10	64635
4/83	31003	23520	458	161	4534	109	570	20	0	4873	2394	910	80	68632
	1.8%	-8.9%	17.9%	4.3%	-0.1%	0.9%	7.0%	10.0%	0.0%	6.1%	-100.0%	-45.6%	-112.5%	-5.8%
SUMMER TOTAL														
	143333	110804	2104	367	40728	1010	4200	90	0	32774	10992	1560	-270	347692
	126076	93375	1999	381	38968	808	4001	68	0	33250	12821	3555	-24	315278
	13.7%	18.7%	5.3%	-3.7%	4.5%	25.0%	5.0%	32.4%	0.0%	-1.4%	-14.3%	-56.1%	-1025.0%	10.3%
WINTER TOTAL														
	236665	86745	1117	661	24418	753	3075	199	0	24325	15168	64818	-107	457837
	204861	63807	1170	814	25307	615	3014	161	0	25221	20211	62705	-233	407653
	15.5%	35.9%	-4.5%	-18.8%	-3.5%	22.4%	2.0%	23.6%	0.0%	-3.6%	-25.0%	3.4%	54.1%	12.3%
YEAR TOTAL														
	379998	197549	3221	1028	65146	1763	7275	289	0	57099	26160	66378	-377	805529
	330937	157182	3169	1195	64275	1423	7015	229	0	58471	33032	66260	-257	722931
	14.8%	25.7%	1.6%	-14.0%	1.4%	23.9%	3.7%	26.2%	0.0%	-2.3%	-20.8%	0.2%	-46.7%	11.4%

NOTE: (1) WINTER TOTAL IS A SUM OF THE VALUES IN NOVEMBER, DECEMBER, JANUARY, FEBRUARY, AND MARCH.

(2) 999.9% REPRESENTS AN INFINITE PERCENTAGE CHANGE RESULTING FROM AN INCREASE FROM A ZERO VALUE TO SOME NON-ZERO VALUE AND THUS A DIVISION BY ZERO.

Table 11. Weather Sensitivity of Residential Natural Gas Consumption in Ohio (1970-1982)

MMCF/Per Heating Degree-Day

Year	Cincinnati Gas and Electric	Columbia Gas	Dayton Power and Light	East Ohio Gas
1970	6.43	21.64	5.69	22.95
1971	6.96	24.04	6.04	23.57
1972	6.95	23.81	5.77	24.22
1973	6.78	23.68	5.72	23.04
1974	6.78	23.35	5.58	24.21
1975	6.83	22.73	5.61	24.34
1976	6.34	21.22	5.04	22.52
1977	5.15	18.95	4.79	20.44
1978	5.11	18.00	4.54	19.74
1979	5.10	18.48	4.53	20.68
1980	4.77	17.91	4.28	19.26
1981	4.82	17.45	4.22	18.73
1982	5.43	17.27	4.07	17.71

Source: Ohio State University Gas Model, monthly reports of four Ohio gas utilities and the Ohio Division of Energy.

Table 12. Ohio Natural Gas Prices in Current Dollars, 1970-1981
($ Per MMBtu)

Year	Residential	Commercial	Industrial
1970	0.84	0.73	0.52
1971	0.96	0.81	0.56
1972	1.02	0.86	0.62
1973	1.08	0.94	0.65
1974	1.23	1.07	0.85
1975	1.51	1.35	1.12
1976	1.79	1.63	1.43
1977	2.23	2.07	1.95
1978	2.43	2.24	2.05
1979	2.78	2.57	2.32
1980	3.45	3.23	2.97
1981	3.87	3.61	3.34

Source: American Gas Association, Gas Facts, and the Ohio Division of Energy.

Table 13. Ohio Natural Gas Prices in Constant Dollars, 1970-1981
(Dollars per MMBtu)
(1967 = 100

Year	Residential	Commercial	Industrial
1970	0.72	0.63	0.45
1971	0.78	0.67	0.47
1972	0.81	0.69	0.49
1973	0.81	0.71	0.46
1974	0.83	0.72	0.58
1975	0.94	0.84	0.69
1976	1.05	0.96	0.84
1977	1.23	1.14	1.07
1978	1.24	1.15	1.05
1979	1.28	1.18	1.07
1979	1.28	1.18	1.07
1980	1.40	1.31	1.20
1981	1.42	1.34	1.25

Note: All prices are stated in terms of 1967 dollars.

Source: American Gas Association, Gas Facts, 1981, U.S. Department of Commerce, Survey of Current Business, April 1982.

Table 14. Integrated Time Path Models of Ohio Sectoral Natural Gas Requirements

SYSTEM: SYS1

THIRD STAGE

MODEL: RS1
DEP VAR: NGRSPOH

VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	APPROX PROB>|T|	VARIABLE LABEL
INTERCEPT	1	364.223397	2.337890	155.7915	0.0001	
T	1	10.989251	0.342627	32.0735	0.0001	
T6	1	-3.528096	0.300701	-11.7329	0.0001	
T12	1	-14.003601	0.766551	-18.2683	0.0001	
T19	1	-10.700656	1.981765	-5.3996	0.0001	
DUM7	1	-26.956922	1.613358	-16.7086	0.0001	

MODEL: CX
DEP VAR: NGCXPOH

VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	APPROX PROB>|T|	VARIABLE LABEL
INTERCEPT	1	104.728652	1.700372	61.5916	0.0001	
T	1	10.477375	0.332555	31.5057	0.0001	
T12	1	-14.992926	0.530098	-28.2833	0.0001	
DUMC	1	-27.599569	2.958169	-9.3300	0.0001	
D75	1	-20.746263	3.299454	-6.2878	0.0001	
D77	1	-19.907347	3.312535	-6.0097	0.0001	

MODEL: IX1
DEP VAR: NGIXPOH

VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	APPROX PROB>|T|	VARIABLE LABEL
INTERCEPT	1	214.032061	4.910471	43.5869	0.0001	
T	1	14.235326	0.654130	21.7622	0.0001	
T10	1	5.547303	0.364515	15.2183	0.0001	
T13	1	-26.956922	1.777834	-15.1628	0.0001	
DUMC	1	27.599569	3.259743	8.4668	0.0001	
DUM9	1	-84.678539	10.133049	-8.3567	0.0001	
D77	1	-48.651277	10.246929	-4.7479	0.0003	
D79	1	26.495242	10.166179	2.6062	0.0207	
D82	1	-58.103418	11.919962	-4.8745	0.0002	

Table 14. Integrated Time Path Models of Ohio Sectoral Natural Gas Requirements (Continued)

MODEL: TR
DEP VAR: NGTRPOH

VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	APPROX PROB>|T|	VARIABLE LABEL
INTERCEPT	1	7.965974	0.562087	14.1721	0.0001	
T	1	0.796180	0.124554	6.3923	0.0001	
T6	1	-0.992882	0.176335	-5.6307	0.0001	
DUM9	1	-2.510593	0.836833	-3.0001	0.0074	

MODEL: EU
DEP VAR: NGEUPOH

VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	APPROX PROB>|T|	VARIABLE LABEL
INTERCEPT	1	2.685701	0.504874	5.3195	0.0001	
T6	1	4.520978	0.210630	21.4641	0.0001	
T10	1	-5.547303	0.312898	-17.7288	0.0001	
DUM9	1	-7.164357	1.275806	-5.6156	0.0001	

MODEL: TT1
DEP VAR: NGTTPOH

VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	APPROX PROB>|T|	VARIABLE LABEL
INTERCEPT	1	693.635784	6.042981	114.7837	0.0001	
T	1	36.498132	0.762976	47.8365	0.0001	
T12	1	-55.953449	1.836053	-30.4749	0.0001	
T19	1	-10.700656	2.183799	-4.9000	0.0002	
DUM9	1	-84.678539	10.133049	-8.3567	0.0001	
D75	1	-20.746263	3.635821	-5.7061	0.0001	
D77	1	-68.558625	10.283497	-6.6669	0.0001	
D79	1	26.495242	10.166179	2.6062	0.0207	
D82	1	-58.103418	11.919962	-4.8745	0.0002	

Table 14-A. (Statistical Summary) Integrated Time Path Models of Ohio Sectoral Natural Gas Requirements

SYSTEM: SYS1

THIRD STAGE

COVARIANCE ACROSS MODELS

	RS1.NGRSPOH	CX.NGCXPOH	IX1.NGIXPOH	TR.NGTRPOH	EU.NGEUPOH	TT1.NGTTPOH
RS1.NGRSPOH	19.77321796	-1.74135665	7.07782546	0.12350048	-0.87215898	12.23483442
CX.NGCXPOH	-1.74135665	7.82539250	-3.71447719	0.39979423	-0.38574863	2.19341711
IX1.NGIXPOH	7.07782546	-3.71447719	59.70699106	1.42179694	-0.02780939	64.87959323
TR.NGTRPOH	0.12350048	0.39979423	1.42179694	0.69762996	-0.37549911	1.35814469
EU.NGEUPOH	-0.87215898	-0.38574863	-0.02780939	-0.37549911	1.74867749	1.33417492
TT1.NGTTPOH	12.23483442	2.19341711	64.87959323	1.35814469	1.33417492	100.35948172

CORRELATION ACROSS MODELS

	RS1.NGRSPOH	CX.NGCXPOH	IX1.NGIXPOH	TR.NGTRPOH	EU.NGEUPOH	TT1.NGTTPOH
RS1.NGRSPOH	1.00000000	-0.13998967	0.20599116	0.03325197	-0.14832082	0.27465039
CX.NGCXPOH	-0.13998967	1.00000000	-0.17184308	0.17110823	-0.10427891	0.07826885
IX1.NGIXPOH	0.20599116	-0.17184308	1.00000000	0.22029895	-0.00272160	0.83813952
TR.NGTRPOH	0.03325197	0.17110823	0.22029895	1.00000000	-0.33997070	0.16231336
EU.NGEUPOH	-0.14832082	-0.10427891	-0.00272160	-0.33997070	1.00000000	0.10071142
TT1.NGTTPOH	0.27465039	0.07826885	0.83813952	0.16231336	0.10071142	1.00000000

INV CORRELATION ACROSS MODELS

	RS1.NGRSPOH	CX.NGCXPOH	IX1.NGIXPOH	TR.NGTRPOH	EU.NGEUPOH	TT1.NGTTPOH
RS1.NGRSPOH	1.20909764	0.33103182	0.44202780	0.03292899	0.30323100	-0.76435322
CX.NGCXPOH	0.33103182	1.44511460	1.32498639	-0.25541882	0.24728804	-1.29799578
IX1.NGIXPOH	0.44202780	1.32498639	4.72165060	-0.44135922	0.48546700	-4.15976383
TR.NGTRPOH	0.03292899	-0.25541882	-0.44135922	1.24906751	0.38768716	0.13908311
EU.NGEUPOH	0.30323100	0.24728804	0.48546700	0.38768716	1.27446514	-0.70080654
TT1.NGTTPOH	-0.76435322	-1.29799578	-4.15976383	0.13908311	-0.70080654	4.84598919

INV COVARIANCE ACROSS MODELS

	RS1.NGRSPOH	CX.NGCXPOH	IX1.NGIXPOH	TR.NGTRPOH	EU.NGEUPOH	TT1.NGTTPOH
RS1.NGRSPOH	0.06114825	0.02661203	0.01286466	0.00886599	0.05156797	-0.01715838
CX.NGCXPOH	0.02661203	0.18466992	0.06129792	-0.10931689	0.06684904	-0.04631706
IX1.NGIXPOH	0.01286466	0.06129792	0.07908036	-0.06838598	0.04751079	-0.05373743
TR.NGTRPOH	0.00886599	-0.10931689	-0.06838598	1.79044418	0.35100556	0.01662198
EU.NGEUPOH	0.05156797	0.06684904	0.04751079	0.35100556	0.72881658	-0.05290102
TT1.NGTTPOH	-0.01715838	-0.04631706	-0.05373743	0.01662198	-0.05290102	0.04828631

WARNING: DEGREES OF FREEDOM NOT ADJUSTED FOR RESTRICTIONS

WEIGHTED MEAN SQUARE ERROR FOR SYSTEM = 1.551251 WITH 113 DFS

WEIGHTED R-SQUARE FOR SYSTEM = 0.9766
THIS IS THE R-SQUARE THAT CORRESPONDS TO THE APPROXIMATE F TEST ON ALL NON-INTERCEPT PARAMETERS IN THE SYSTEM.

Table 15. Independent Forecast of Annual Natural Gas End Use Requirements, Calendar Year 1984 (MMCF)

	Actual 1982	Lower 95% Confidence Limit	Forecast 1984	Upper 95% Confidence Limit	Forecast % Change
Residential	356.51	304.90	315.98	327.06	-11.37
Commercial	159.23	141.81	148.77	155.73	-6.57
Industrial	231.14	260.61	279.85**	299.09	+21.07
Other*	7.41	2.13	6.03	9.93	-18.62
Total	754.29	709.45	750.63	791.81	0.49

Source: Ohio Division of Energy.

*Other includes transportation and electric utilities sectors.

**Industrial forecast is based on the assumption that average unemployment will be down to 7%.

Table 16. Projected Aggregate Supply and Requirements for Natural Gas for Eight Major Utilities
May 1983 - April 1984 (MMCF)

Month/ Year	5/83	6/83	7/83	8/83	9/83	10/83	11/83	12/83	1/84	2/84	3/84	4/84	Summer Totals	Winter Totals	Annual Totals
Supply	58,003	46,036	38,783	39,787	42,013	58,435	70,817	96,551	111,447	97,763	81,259	64,635	347,692	457,837	805,529
Demand	57,878	45,947	38,632	39,627	41,896	58,203	70,517	96,264	111,432	97,763	81,259	64,635	346,818	457,235	804,053
Deficiency	-125	-89	-151	-160	-117	-232	-300	-287	-15	0	0	0	-874	-602	-1,476
Percent Deficiency	-0.2	-0.2	-0.4	-0.4	-0.3	-0.4	-0.4	-0.3	-0.0	0	0	0	-0.3	-0.1	-0.2

Note: A positive deficiency indicates a shortage; a negative deficiency indicates a surplus.

Source: ODOE Form SG-1 of eight major gas utilities and the Ohio Division of Energy.

Table 17. Comparison Between One Year of Actual and Forecast Demand for Eight Major Ohio Gas Utilities by Sector (MMCF)

MONTH/YEAR	DEGREE DAYS	RESIDENTIAL REQUIREMENT	COMMERCIAL REQUIREMENT	INDUSTRIAL REQUIREMENT	OTHER REQUIREMENT	STORAGE (IN)	TOTAL REQUIREMENT	DEFICIENCY
5/83	202	20001	8819	22502	-4084	10640	57878	-125
5/82	196	16622	6910	17575	-7980	10289	43416	0
	3.1%	20.3%	27.6%	28.0%	48.8%	3.4%	33.3%	999.9%
6/83	30	11444	5241	21597	-2372	10037	45947	-89
6/82	29	9695	4225	16664	-145	9771	40210	0
	3.4%	18.0%	24.0%	29.6%	-1535.9%	2.7%	14.3%	999.9%
7/83	5	7818	3927	16801	246	9840	38632	-151
7/82	5	8247	3869	14382	397	9782	36677	-3
	0.0%	-5.2%	1.5%	16.8%	-38.0%	0.6%	5.3%	-4933.3%
8/83	11	7544	3793	17512	1579	9199	39627	-160
8/82	11	7554	3615	14904	1363	9505	36941	0
	0.0%	-0.1%	4.9%	17.5%	15.8%	-3.2%	7.3%	999.9%
9/83	87	8538	4122	17457	3049	8730	41896	-117
9/82	87	8807	4113	14167	1974	9150	38211	2
	0.0%	-3.1%	0.2%	23.2%	54.5%	-4.6%	9.6%	-5950.0%
10/83	334	15132	6653	19241	10144	7033	58203	-232
10/82	334	13095	5789	14855	9471	7900	51190	0
	0.0%	15.6%	14.9%	29.5%	7.1%	-11.9%	13.7%	999.9%
11/83	690	28429	12344	17781	11963	0	70517	-300
11/82	686	26841	11872	16757	9900	314	65604	0
	0.6%	5.9%	4.0%	6.1%	20.8%	-100.0%	7.4%	999.9%
12/83	1052	46285	19989	19050	10940	0	96264	-207
12/82	1028	38216	16959	16152	6098	682	78907	0
	2.3%	21.1%	17.9%	17.9%	58.6%	-100.0%	22.0%	999.9%
1/84	1141	57543	24816	21249	6498	1326	111432	-15
1/83	1124	50065	21976	18409	11868	5	102323	0
	1.5%	14.9%	12.9%	15.4%	-45.2%	26420.0%	8.9%	999.9%
2/84	980	54766	24034	21421	-3784	1326	97763	0
2/83	977	51699	22747	19208	-7752	276	86178	0
	0.3%	5.9%	5.7%	11.5%	51.2%	380.4%	13.4%	0.0%
3/84	823	47534	20534	18612	-5421	0	81259	0
3/83	814	38557	16520	18008	1324	152	74561	0
	1.1%	23.3%	24.3%	3.4%	-509.4%	-100.0%	9.0%	0.0%
4/84	735	33472	14746	16291	-7837	7963	64635	0
4/83	455	36593	15458	17588	-8232	7225	68632	0
	61.5%	-8.5%	-4.6%	-7.4%	4.8%	10.2%	-5.8%	0.0%
SUMMER TOTAL								
	1404	103949	47301	131401	725	63442	346818	-874
	1117	100613	43979	110135	-3152	63702	315277	-1
	25.7%	3.3%	7.6%	19.3%	123.0%	-0.4%	10.0%	********
WINTER TOTAL								
	4686	234557	101717	98113	20196	2652	457235	-602
	4629	205378	90074	88534	22238	1429	407653	0
	1.2%	14.2%	12.9%	10.8%	-9.2%	85.6%	12.2%	999.9%
YEAR TOTAL								
	6090	338506	149018	229514	20921	66094	804053	-1476
	5746	305991	134053	198669	19086	65131	722930	-1
	6.0%	10.6%	11.2%	15.5%	9.6%	1.5%	11.2%	********

NOTE: (1) WINTER TOTAL IS A SUM OF THE VALUES IN NOVEMBER, DECEMBER, JANUARY, FEBRUARY, AND MARCH

(2) 999.9% REPRESENTS AN INFINITE PERCENTAGE CHANGE RESULTING FROM AN INCREASE FROM A ZERO VALUE TO SOME NON-ZERO VALUE AND THUS A DIVISION BY ZERO.

(3) A POSITIVE DEFICIENCY INDICATES SHORTAGE, A NEGATIVE DEFICIENCY INDICATES SURPLUS.

Table 18. Independent Forecasts of Gas Supply and Demand for the Eight Major Ohio Gas Utilities November 1983 - March 1984 (MMCF)

	Normal Weather			10% Colder Than Normal Weather		
	Supply	Demand	Surplus (Deficiency)[1]	Supply	Demand	Surplus (Deficiency)[1]
Cincinnati Gas & Electric	51,950	48,862	3,088	55,710	52,480	3,230
Columbia Gas	160,234	155,883	4,351	170,197	166,255	3,942
Dayton Power & Light	36,518	36,935	(417)	39,241	39,695	(454)
East Ohio Gas	183,988	186,164	(2,176)	194,984	196,739	(1,755)
National Gas	6,873	6,094	779	6,873	6,521	352
Ohio Gas	4,282	4,282	-0-	4,595	4,595	-0-
River Gas	2,778	2,778	-0-	2,924	2,924	-0-
West Ohio Gas	7,327	7,327	-0-	7,819	7,819	-0-
Total	453,950	448,325	5,625	482,343	477,028	5,315

Note: [1]Numbers within parentheses indicate deficiency. Columbia Gas of Ohio and East Ohio Gas estimate that there is over 145,853 MMCF in storage to meet any deficiencies in Ohio. East Ohio Gas Company indicated that their useable storage capacity of 143,307 MMCF represents 23% of Consolidated's useable storage capacity.

Source: June 1983 ODOE Form SG-2 of reporting utilities, and the Ohio Division of Energy.

Table 19. Independent Forecasts of Gas Supply
and Demand for Cincinnati Gas and Electric Company
November 1983 - March 1984
(MMCF)

	Normal Weather				10% Colder Than Normal Weather			
	Supply	HDD[2]	Demand	Surplus (Deficiency)[3]	Supply	HDD[2]	Demand	Surplus (Deficiency)[3]
November 1983	7,424	638	7,470	(46)	7,981	702	7,980	1
December 1983	10,783	951	10,524	259	11,610	1,046	11,326	284
January 1984	12,718	1,110	12,527	191	13,684	1,221	13,499	185
February 1984	11,548	912	10,101	1,447	12,340	1,003	10,856	1,484
March 1984	9,477	714	8,240	1,237	10,095	785	8,819	1,276
Total[1]	51,950		48,862	3,088	55,710		52,480	3,230

Notes: [1]Totals may not add due to independent rounding.
[2]HDD - Heating Degree-Days.
[3]Numbers within parentheses indicate deficiency. Projected deficiency levels can be met with gas in storage.

Source: Cincinnati Gas & Electric's June 1983 ODOE Form SG-2, and the Ohio Division of Energy.

Table 20. Independent Forecasts of Gas Supply and Demand for Columbia Gas of Ohio November 1983 - March 1984 (MMCF)

	Normal Weather				10% Colder Than Normal Weather			
	Supply	HDD[2]	Demand	Surplus (Deficiency)[3]	Supply	HDD[2]	Demand	Surplus (Deficiency)[3]
November 1983	24,654	570	24,787	(133)	25,755	627	26,143	(388)
December 1983	34,828	951	33,332	1,496	36,772	1,046	35,559	1,213
January 1984	40,972	1,173	40,271	701	43,513	1,290	43,134	379
February 1984	32,359	1,102	32,224	135	34,796	1,212	34,477	319
March 1984	27,421	918	25,269	2,152	29,361	1,010	26,942	2,419
Total[1]	160,234		155,883	4,351	170,197		166,255	3,942

Notes: [1]Totals may not add due to independent rounding.
[2]HDD - Heating Degree-Days.
[3]Numbers within parentheses indicate deficiency. Projected deficiency levels can be met with gas in storage.

Source: Columbia Gas of Ohio's June 1983 ODOE Form SG-2, and the Ohio Division of Energy.

Table 21. Independent Forecasts of Gas Supply and Demand for Dayton Power & Light Company November 1983 - March 1984 (MMCF)

	Normal Weather				10% Colder Than Normal Weather			
	Supply	HDD[2]	Demand	Surplus (Deficiency)[3]	Supply	HDD[2]	Demand	Surplus (Deficiency)[3]
November 1983	5,407	495	5,267	140	5,711	545	5,618	93
December 1983	7,388	868	7,571	(283)	7,915	955	8,242	(327)
January 1984	8,418	1,127	9,401	(983)	9,090	1,240	9,947	(857)
February 1984	8,679	1,109	8,822	(143)	9,345	1,220	9,555	(210)
March 1984	6,626	931	5,874	752	7,180	1,024	6,333	847
Total[1]	36,518		36,935	(517)	39,241		39,695	(454)

Notes: [1]Totals may not add due to independent rounding.
[2]HDD - Heating Degree-Days.
[3]Numbers within parentheses indicate deficiency. Projected deficiency levels can be met with gas in storage.

Source: Dayton Power & Light Company's June 1983 ODOE Form Sg-2, and the Ohio Division of Energy.

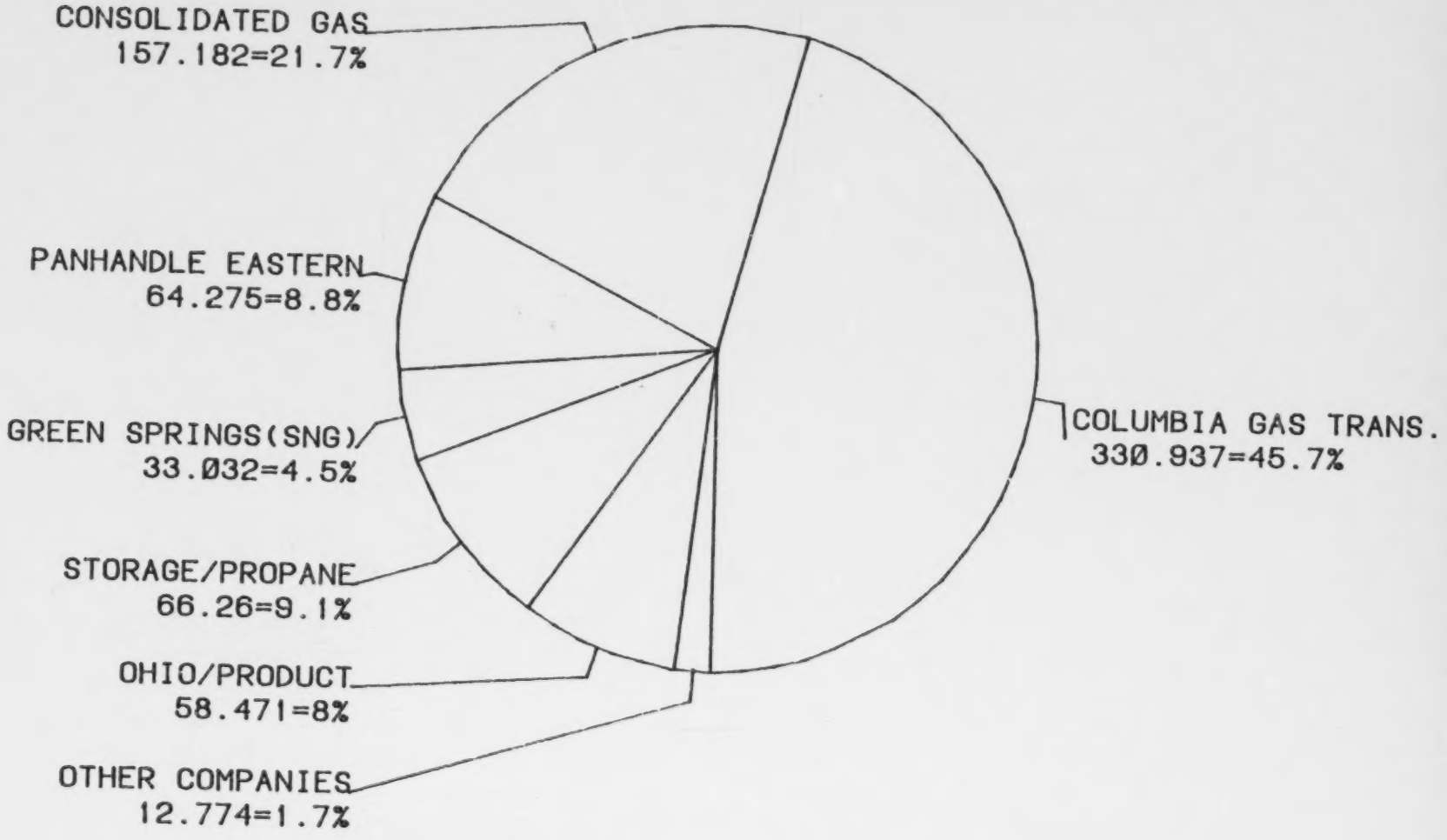
Table 22. Independent Forecasts of Gas Supply
and Demand for East Ohio Gas Company
November 1983 - March 1984

	Normal Weather				10% Colder Than Normal Weather			
	Supply	HDD[2]	Demand	Surplus (Deficiency)[3]	Supply	HDD[2]	Demand	Surplus (Deficiency)[3]
November 1983	28,871	534	30,139	(1,268)	30,447	587	31,212	(765)
December 1983	38,570	983	39,849	(1,279)	41,006	1,081	41,865	(859)
January 1984	43,235	1,197	46,491	(3,256)	45,912	1,317	49,085	(3,173)
February 1984	39,529	1,155	38,003	1,526	41,881	1,271	41,317	564
March 1984	33,783	954	31,682	2,101	35,738	1,049	33,260	2,478
Total[1]	183,988		186,164	(2,176)	194,984		196,739	(1,755)

Notes: [1]Totals may not add due to independent rounding.
[2]HDD - Heating Degree-Days
[3]Numbers within parentheses indicate deficiency. Projected deficiency levels can be met with gas in storage.

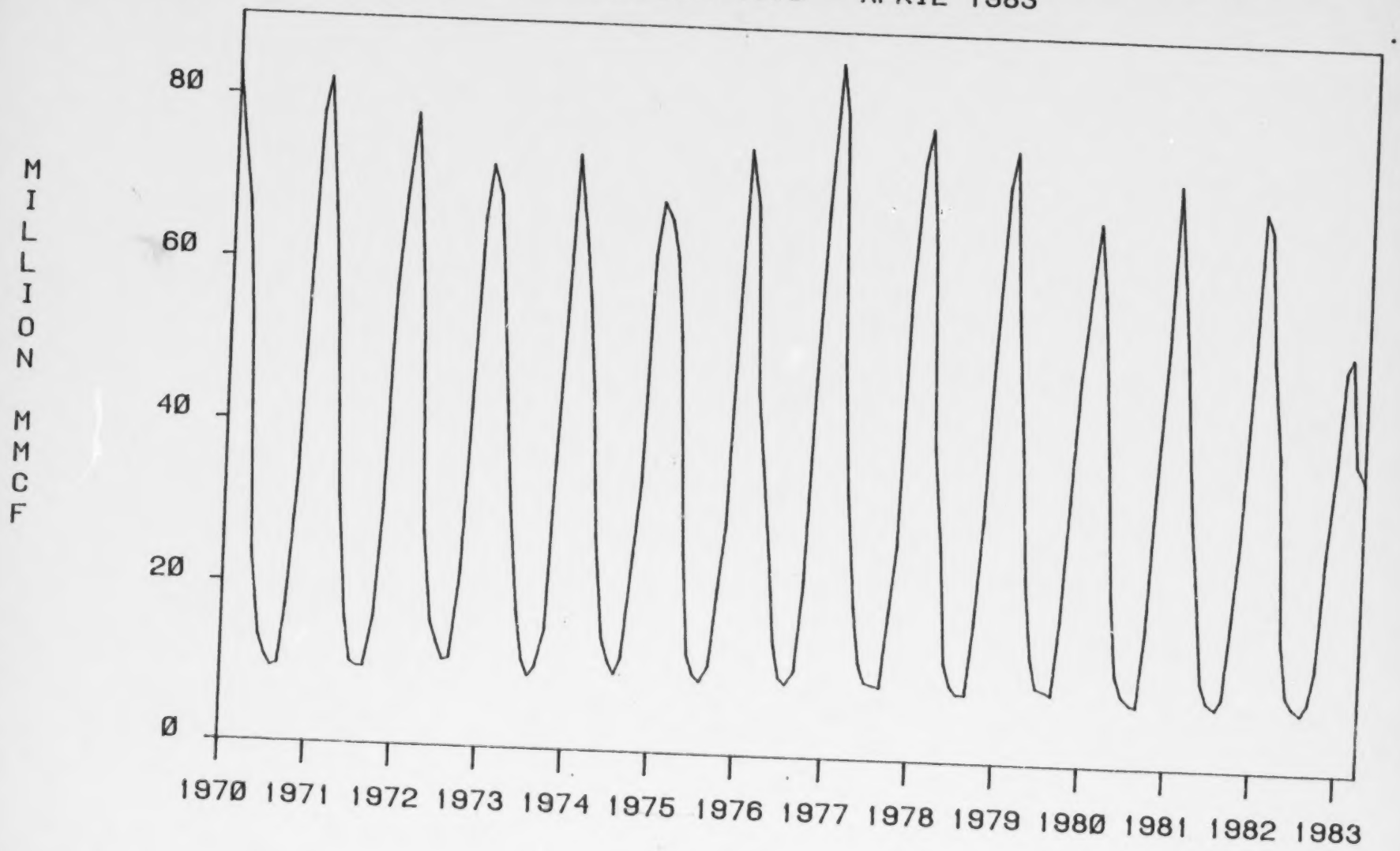
Source: East Ohio Gas Company's November 1982 ODOE Form SG-2, and the Ohio Division of Energy.

FIG. 10. SOURCE OF NATURAL GAS SUPPLY TO THOUSANDS.
THE EIGHT MAJOR OHIO GAS UTILITIES (MAY 1982 - APRIL 1983)

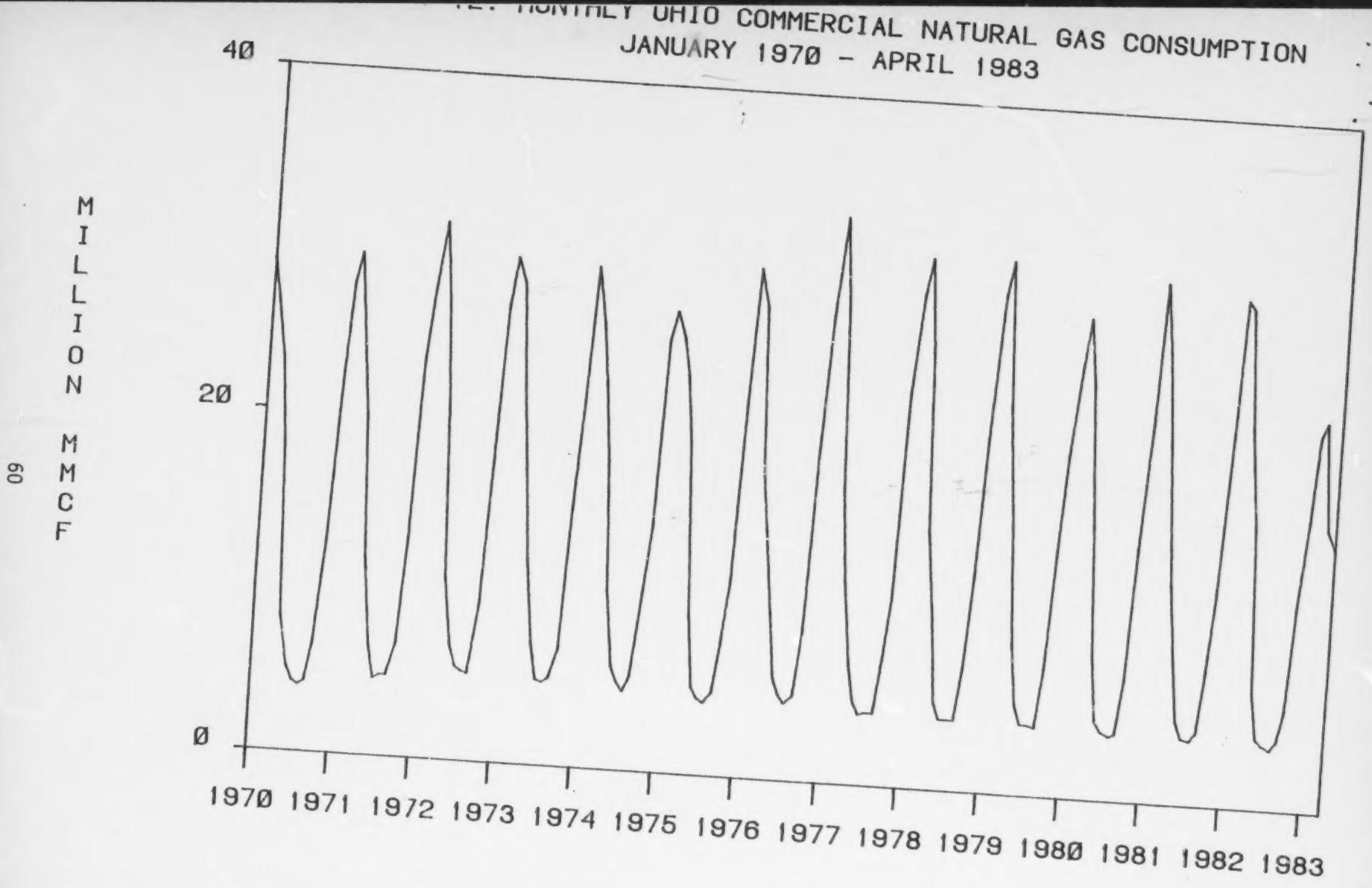


SOURCE: OHIO DIVISION OF ENERGY

FIG. 11. MONTHLY OHIO RESIDENTIAL NATURAL GAS CONSUMPTION
JANUARY 1970 - APRIL 1983

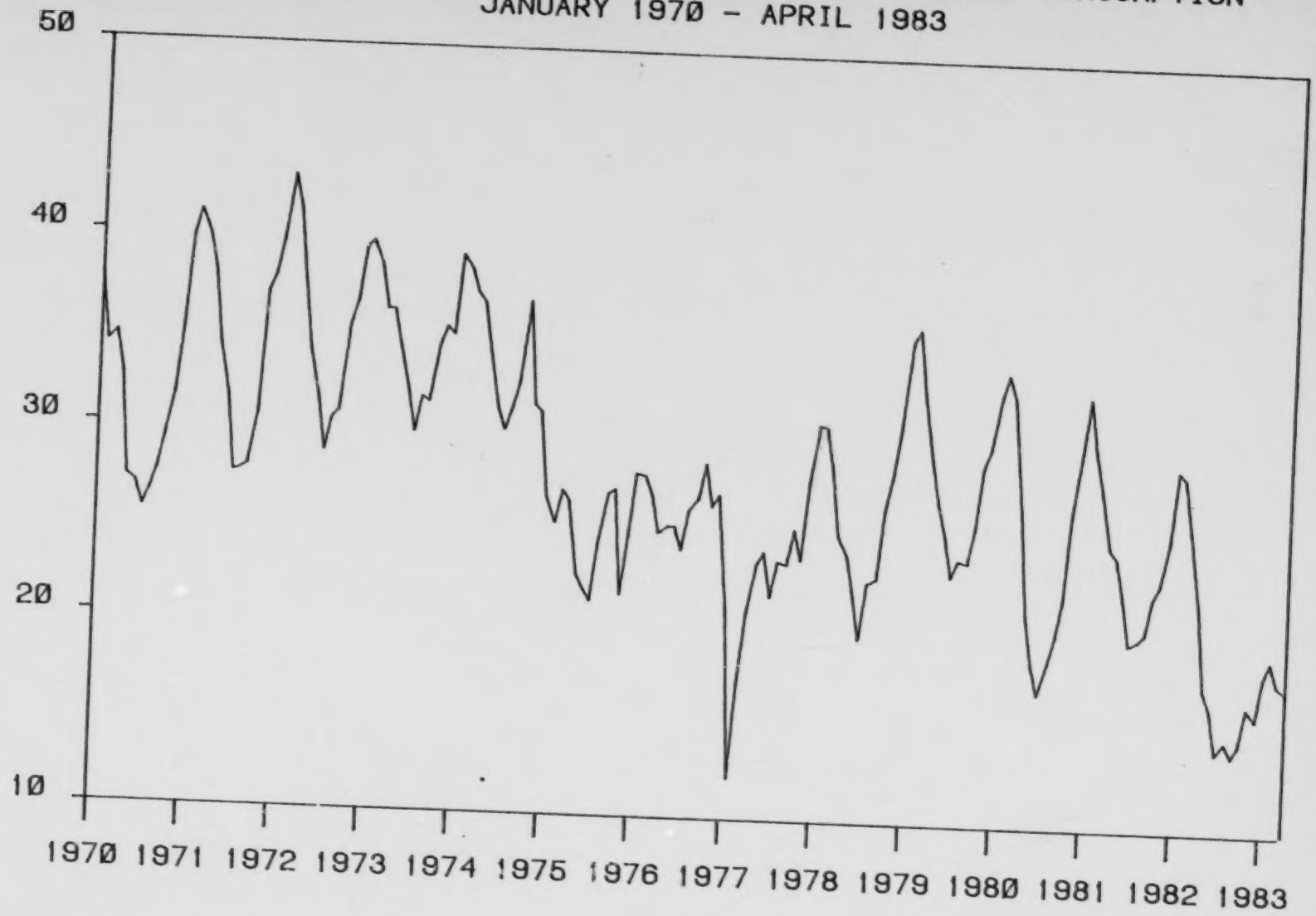


SOURCE: OHIO DIVISION OF ENERGY



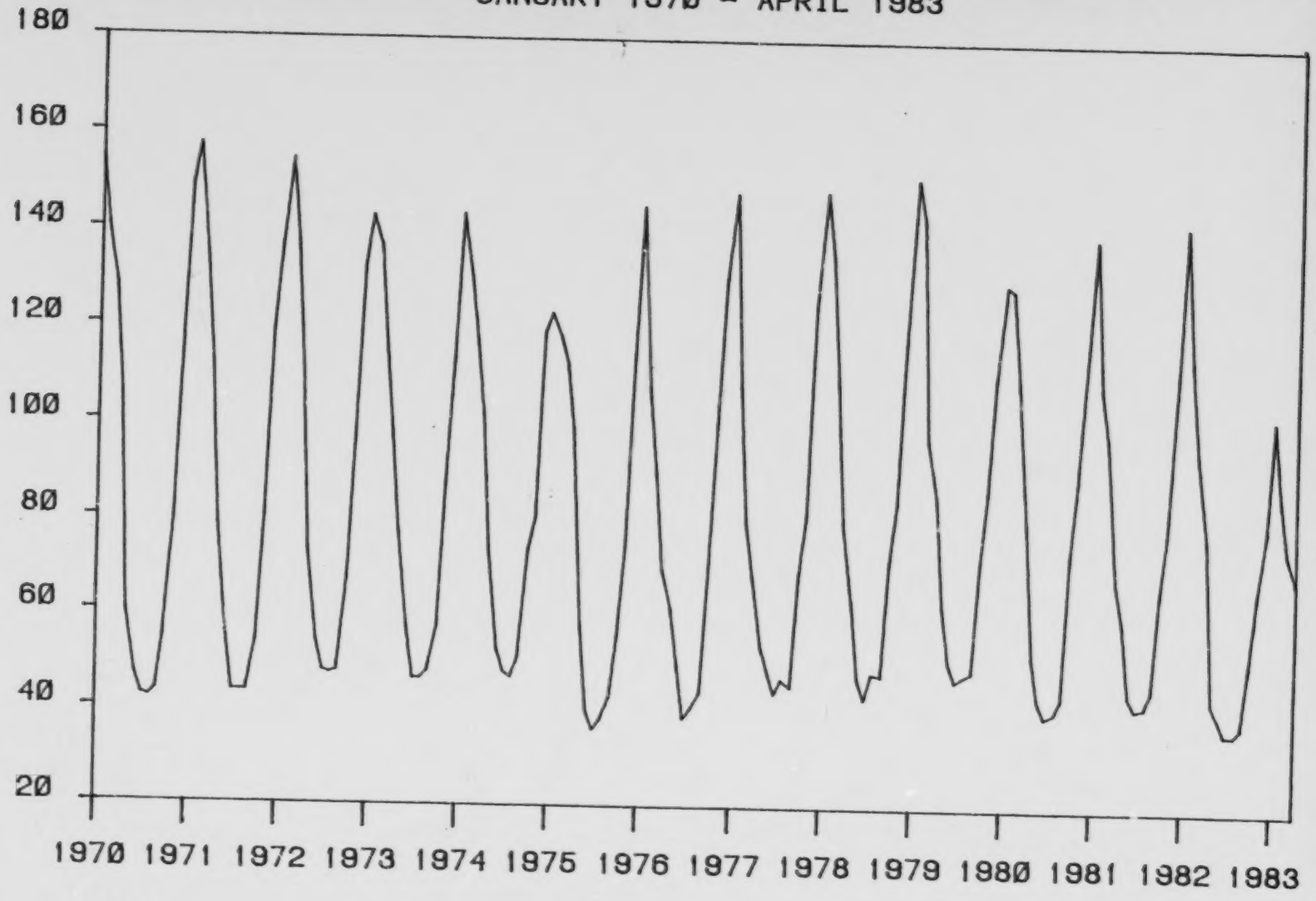
SOURCE: OHIO DIVISION OF ENERGY

FIG. 13. MONTHLY OHIO INDUSTRIAL NATURAL GAS CONSUMPTION
JANUARY 1970 - APRIL 1983



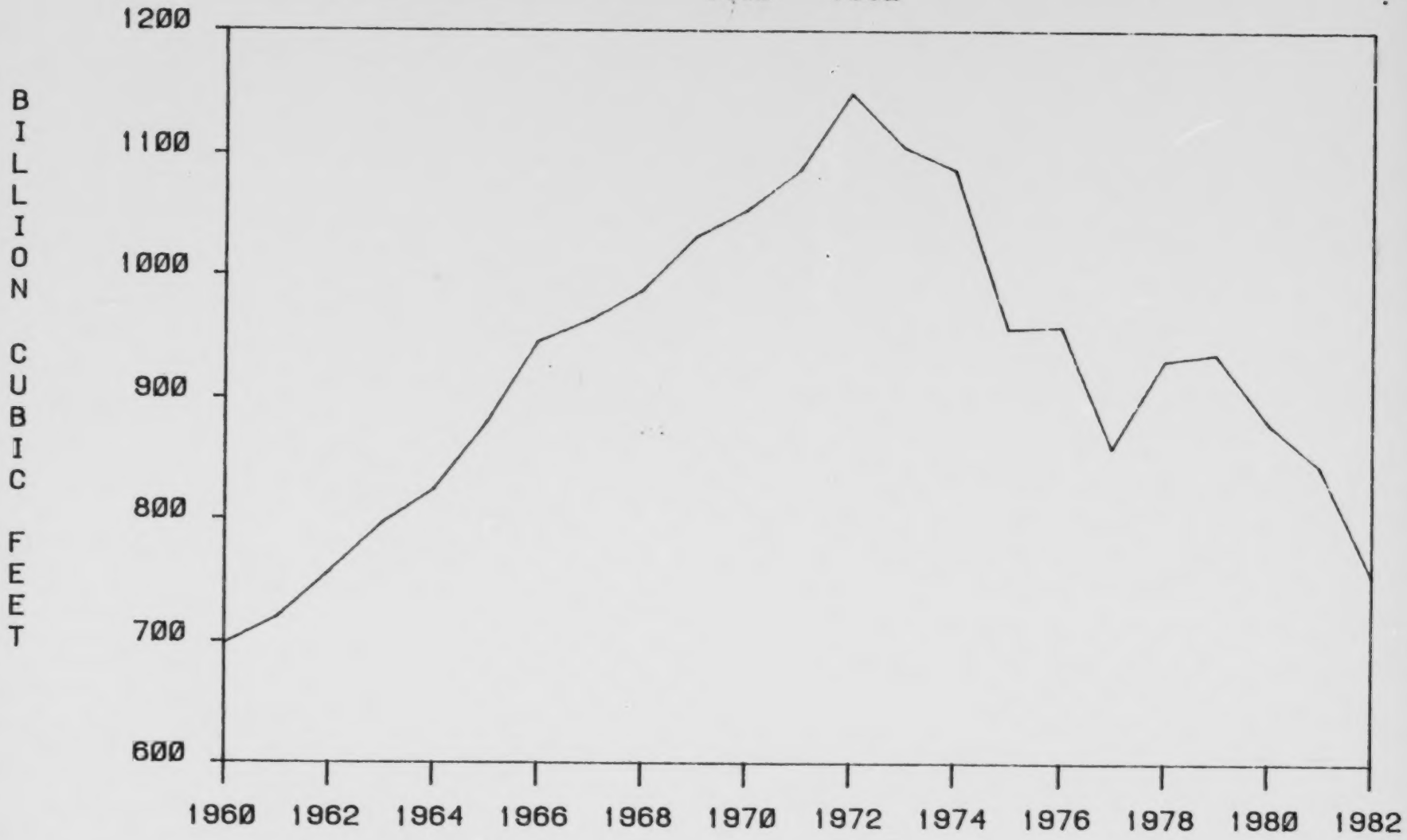
SOURCE: OHIO DIVISION OF ENERGY

FIG. 14. MONTHLY OHIO TOTAL NATURAL GAS CONSUMPTION
JANUARY 1970 - APRIL 1983



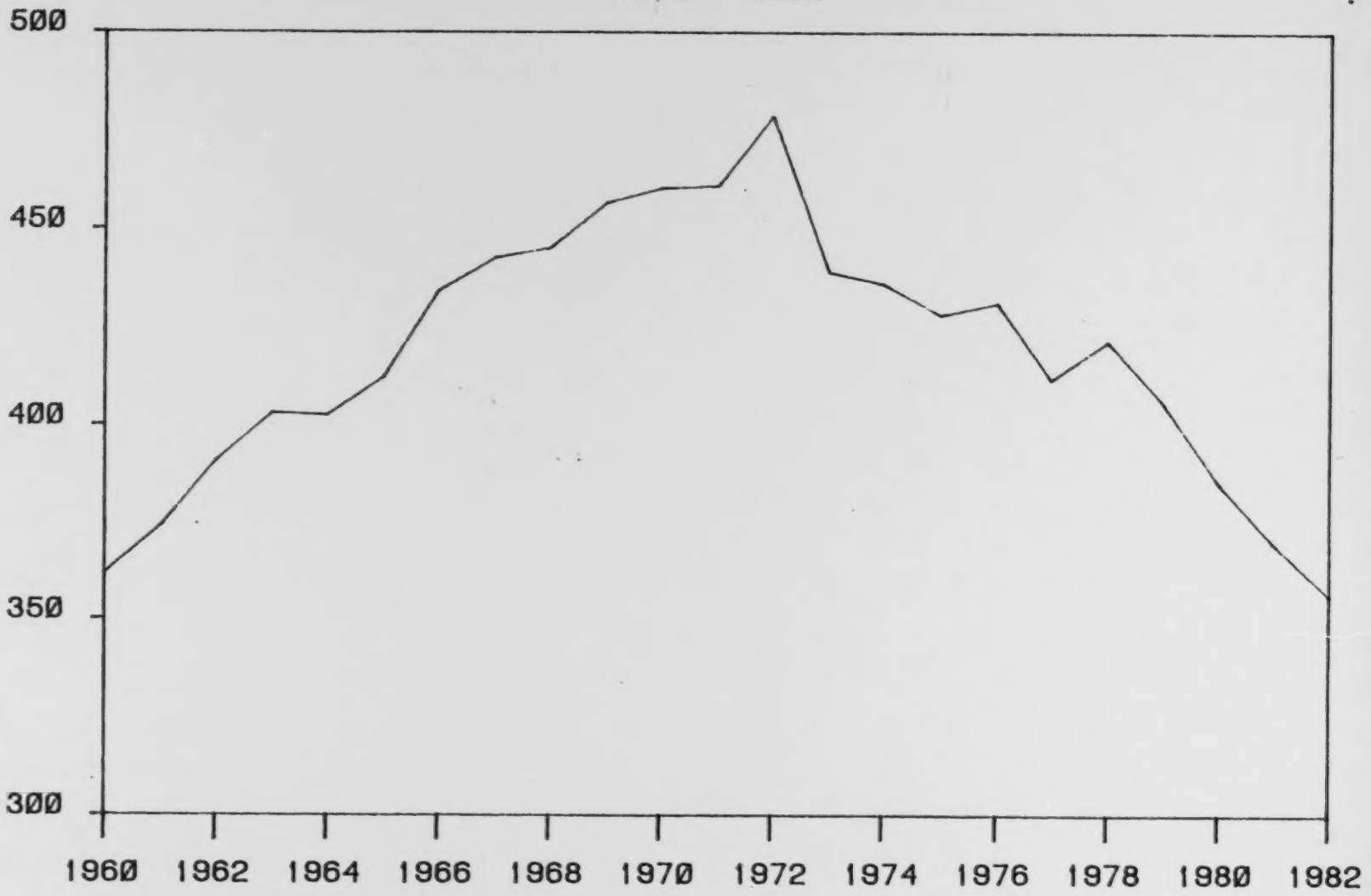
SOURCE: OHIO DIVISION OF ENERGY

FIGURE 15. OHIO TOTAL NATURAL GAS CONSUMPTION, 1960 - 1982



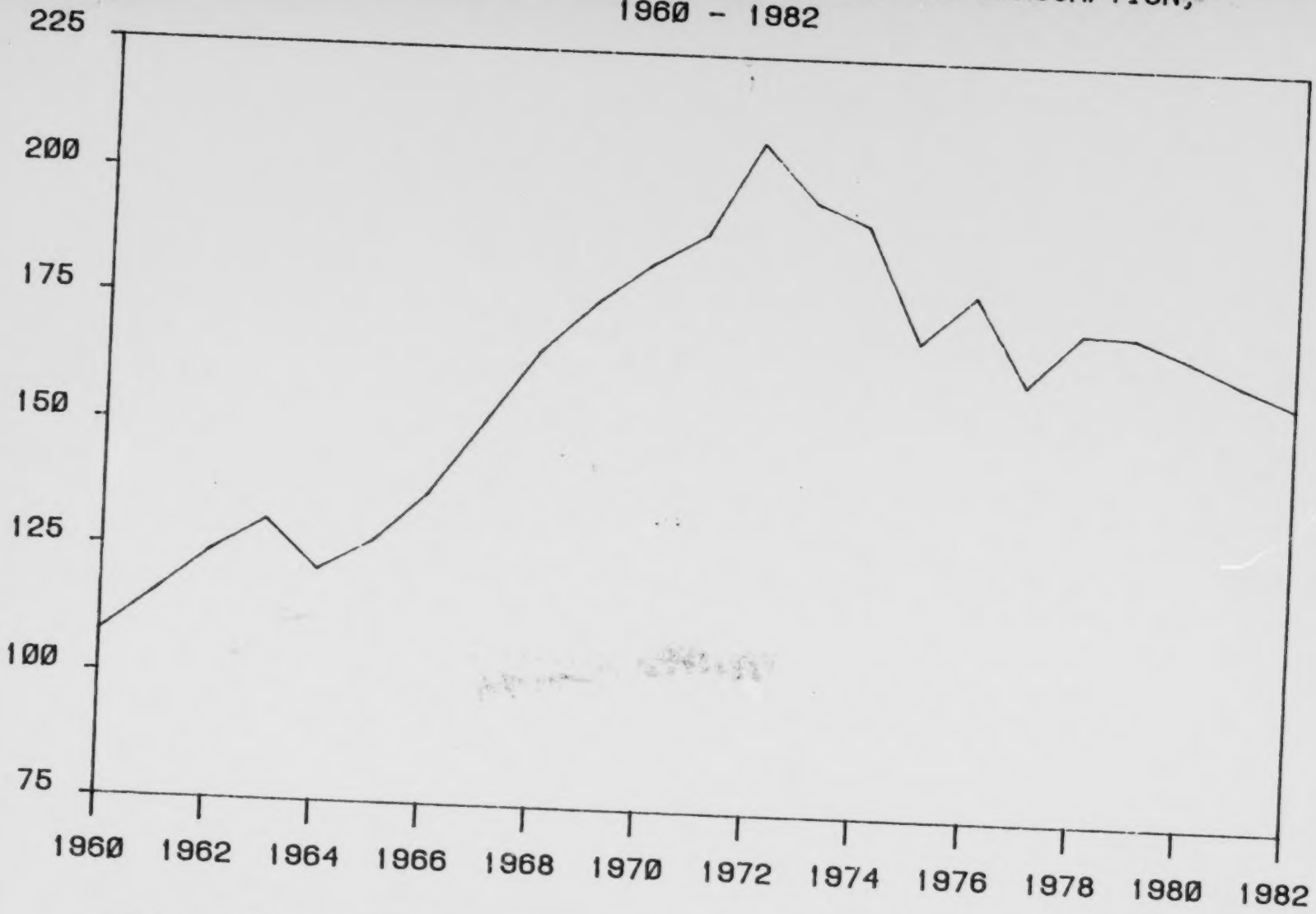
SOURCE: OHIO DIVISION OF ENERGY

FIGURE 16. OHIO RESIDENTIAL NATURAL GAS CONSUMPTION, 1960 - 1982



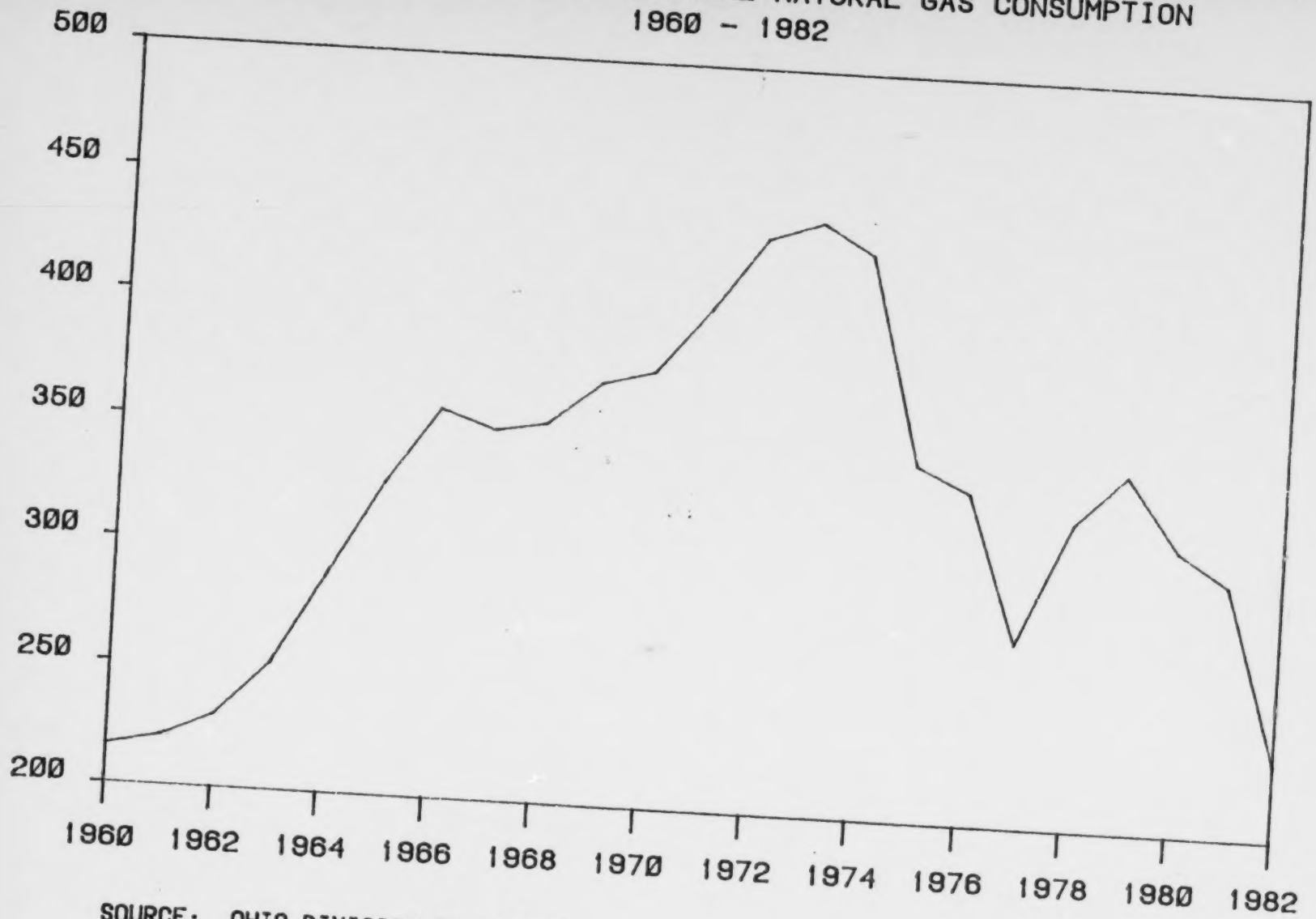
SOURCE: OHIO DIVISION OF ENERGY

FIGURE 17: OHIO COMMERCIAL NATURAL GAS CONSUMPTION, 1960 - 1982



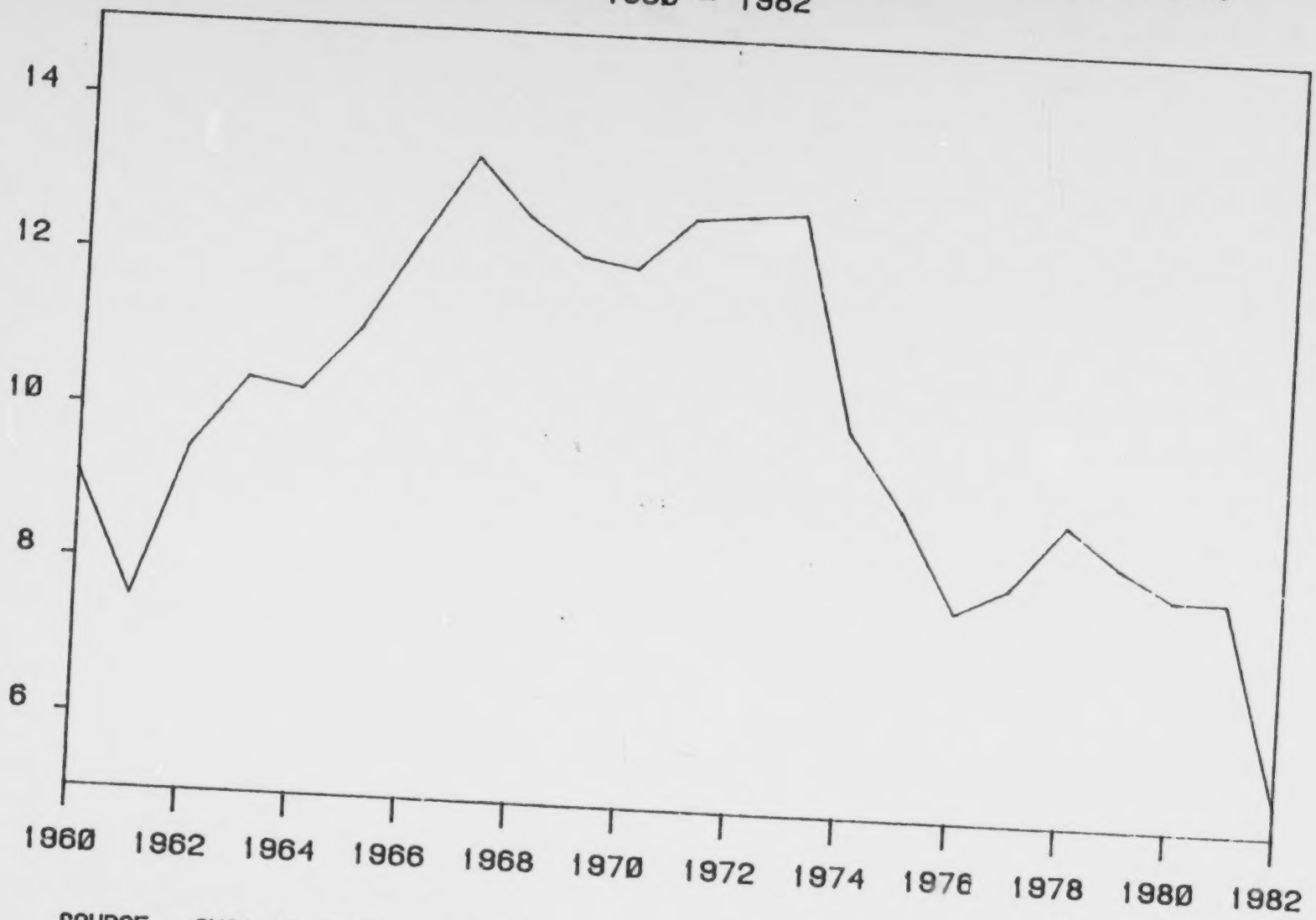
SOURCE: OHIO DIVISION OF ENERGY

FIGURE 18. OHIO INDUSTRIAL NATURAL GAS CONSUMPTION
1960 - 1982



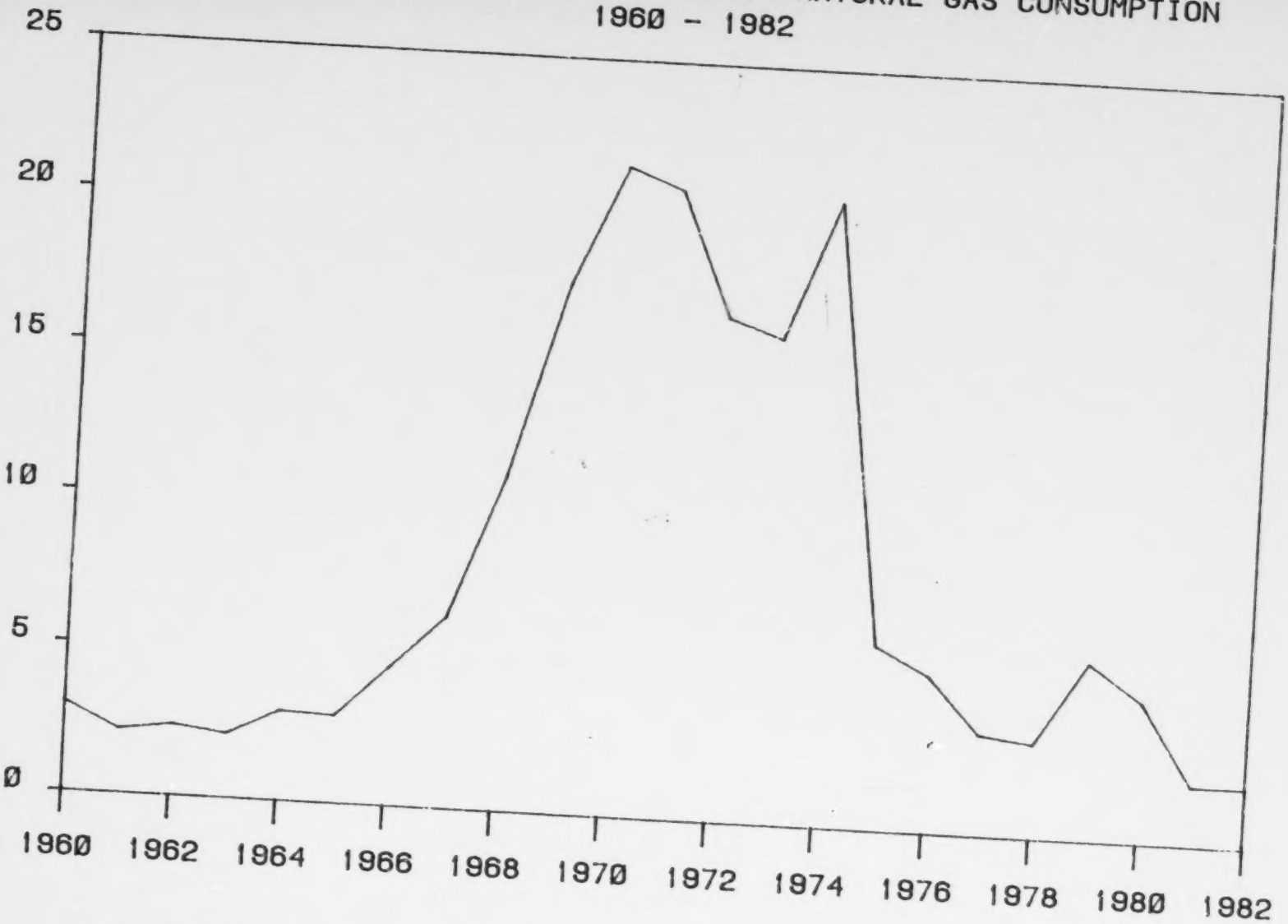
SOURCE: OHIO DIVISION OF ENERGY

FIGURE 19. OHIO TRANSPORTATION NATURAL GAS CONSUMPTION, 1960 - 1982



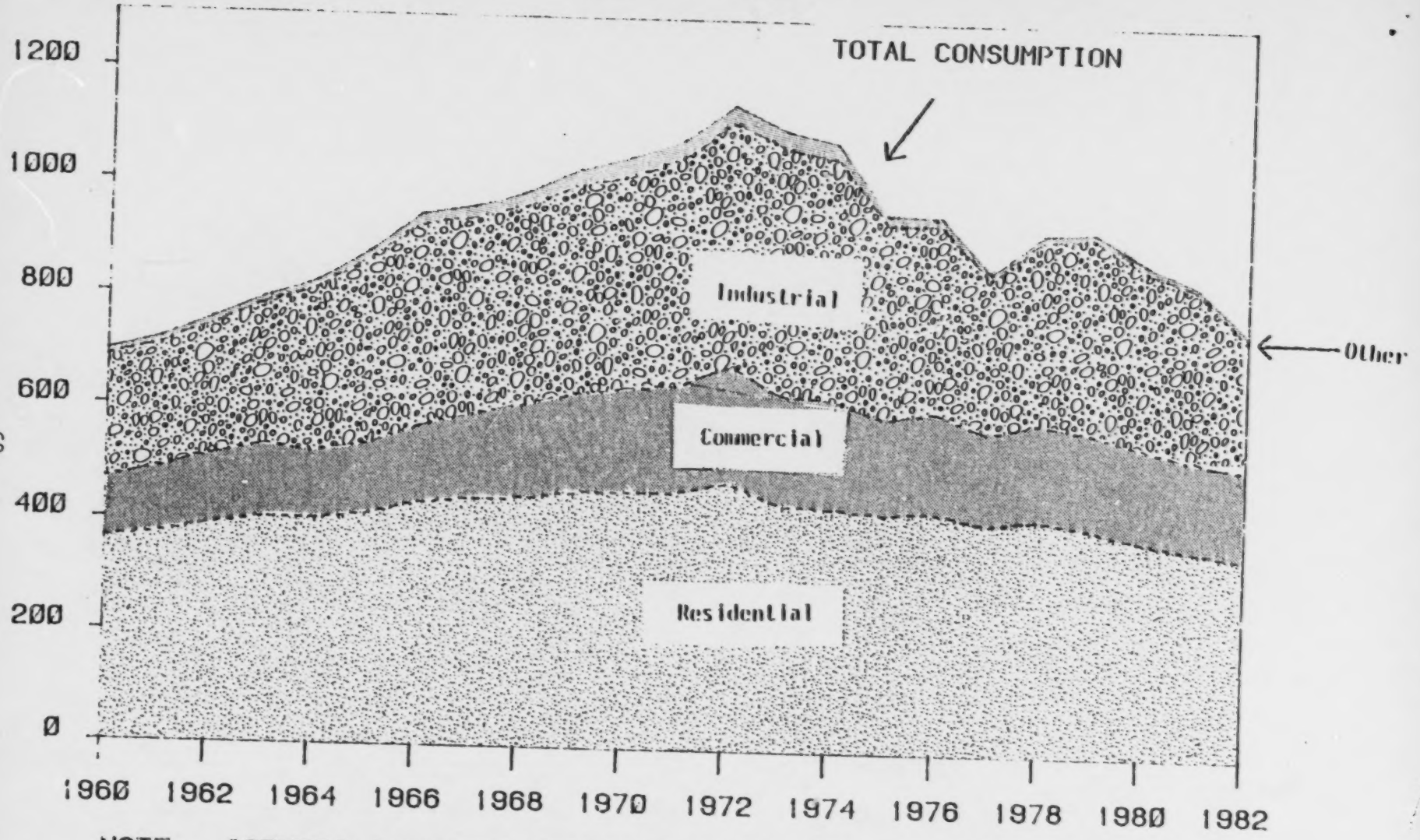
SOURCE: OHIO DIVISION OF ENERGY

FIGURE 20. OHIO ELECTRIC UTILITY NATURAL GAS CONSUMPTION
1960 - 1982



SOURCE: OHIO DIVISION OF ENERGY

FIG. 21. OHIO NATURAL GAS CONSUMPTION BY SECTOR
1960 - 1982



NOTE: "OTHER" INCLUDES TRANSPORTATION AND ELECTRIC UTILITY CONSUMPTION.

SOURCE: OHIO DIVISION OF ENERGY

FIG. 22. PROJECTED SUPPLY AND REQUIREMENTS OF NATURAL GAS
EIGHT MAJOR COMPANIES (MAY 1983 - APRIL 1984)

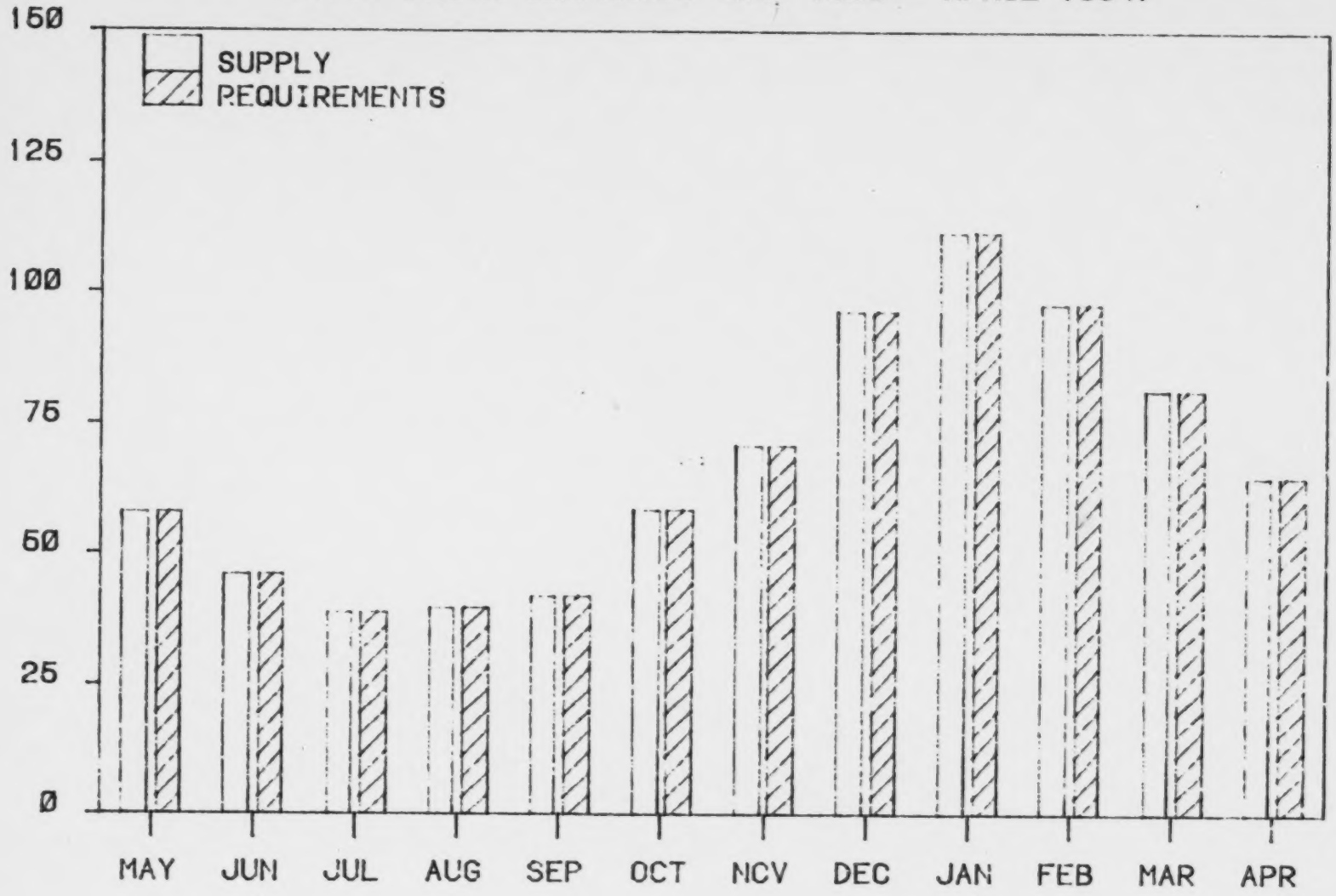
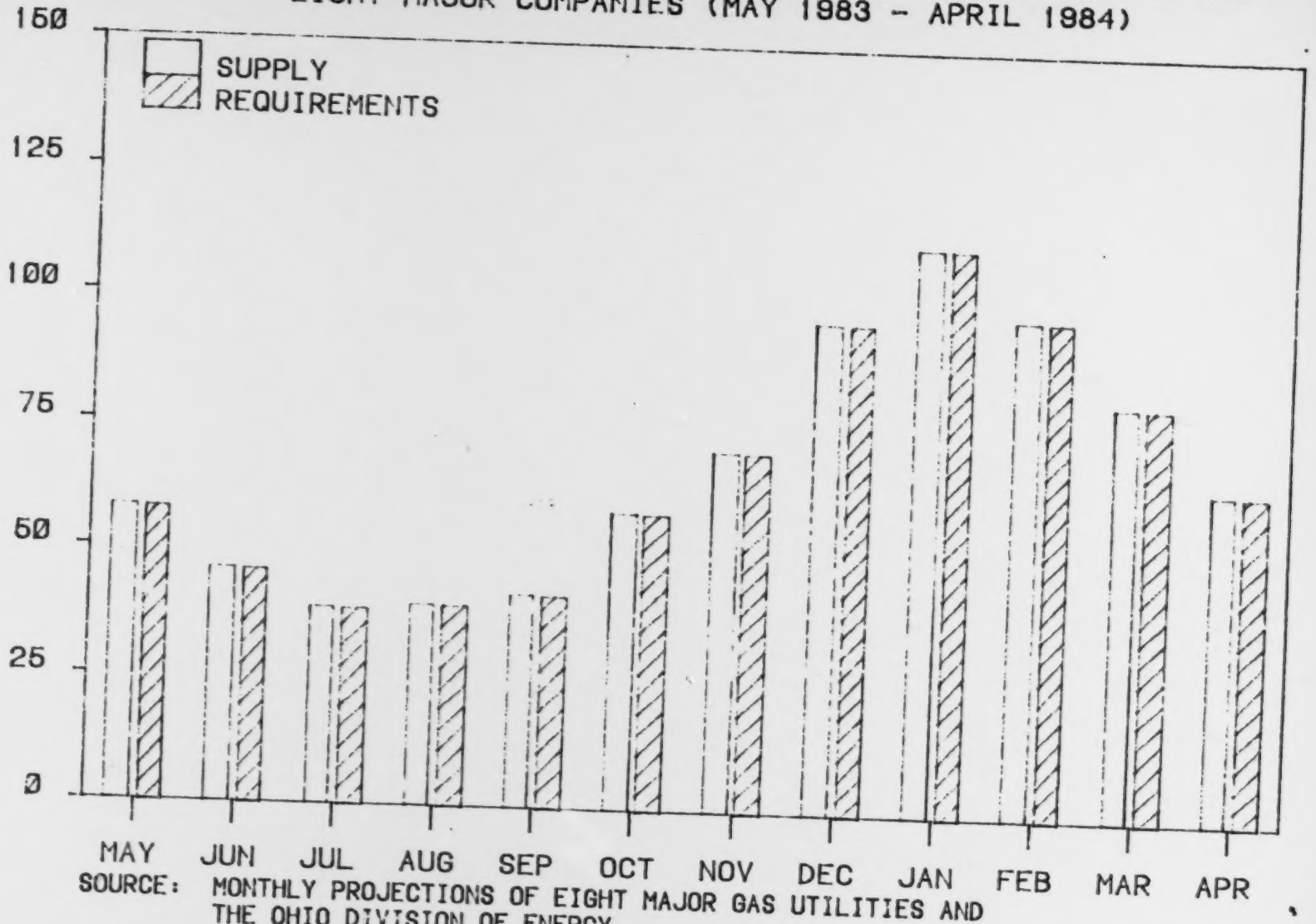


FIG. 23. PROJECTED SUPPLY AND REQUIREMENTS OF NATURAL GAS EIGHT MAJOR COMPANIES (MAY 1983 - APRIL 1984)



SOURCE: MONTHLY PROJECTIONS OF EIGHT MAJOR GAS UTILITIES AND THE OHIO DIVISION OF ENERGY

APPENDIX A: ELECTRICITY

Table A-1. Allegheny Power System:
Forecast of Electric Energy Demand
(1000 MWH)

	Actual Demand (1982-1983)	Utility Forecast (1983-1984)	Forecast % Change (Utility Forecast vs. Actual)	ODOE Forecast (1983-1984)	Forecast % Change (ODOE Forecast vs. Actual)
July	2,413	2,597	7.6	2,429	0.7
August	2,390	2,687	12.4	2,449	2.5
September	2,257	2,505	11.0	2,325	3.0
October	2,360	2,649	12.2	2,450	3.8
November	2,394	2,674	11.7	2,456	2.6
December	2,569	2,966	15.5	2,704	5.3
January	2,792	3,388	21.3	2,934	5.1
February	2,525	2,941	16.5	2,592	2.7
March	2,690	2,944	9.4	2,703	0.5
April	2,453	2,621	6.8	2,405	-2.0
May	2,363	2,662	12.7	2,339	-1.0
June		2,636		2,288	

Source: Form EIA-119M and the Ohio Division of Energy.

Table A-2. American Electric Power:
Forecast of Electric Energy Demand
(1000 MWH)

	Actual Demand (1982-1983)	Utility Forecast (1983-1984)	Forecast % Change (Utility Forecast vs. Actual)	ODOE Forecast (1983-1984)	Forecast % Change (ODOE Forecast vs. Actual)
July	6,508	6,450	-0.9	6,556	0.7
August	6,346	6,618	4.3	6,435	1.4
September	5,843	6,060	3.7	6,052	3.6
October	6,086	6,294	3.4	6,245	2.6
November	6,146	6,589	11.6	6,258	1.8
December	6,537	7,315	11.9	6,817	4.3
January	7,230	8,096	12.0	7,515	3.9
February	6,409	7,367	14.9	6,633	3.5
March	6,771	7,120	5.2	6,899	1.9
April	6,289	6,235	-0.1	6,276	-0.2
May	6,004	6,104	1.7	5,961	-0.7
June		6,198		5,939	

Source: Form EIA-119M and the Ohio Division of Energy.

Table A-3. Cincinnati Gas and Electric:
Forecast of Electric Energy Demand
(1000 MWH)

	Actual Demand (1982-1983)	Utility Forecast (1983-1984)	Forecast % Change (Utility Forecast vs. Actual)	ODOE Forecast (1983-1984)	Forecast % Change (ODOE Forecast vs. Actual)
July	1,506	1,498	-0.5	1,453	-3.5
August	1,350	1,523	12.8	1,393	3.2
September	1,183	1,283	8.5	1,195	1.0
October	1,172	1,210	3.2	1,148	2.0
November	1,189	1,255	5.6	1,190	0.1
December	1,261	1,413	12.1	1,314	4.2
January	1,376	1,462	6.3	1,417	3.0
February	1,211	1,333	10.1	1,244	2.7
March	1,261	1,352	7.2	1,270	0.7
April	1,172	1,172	0.0	1,142	-2.6
May	1,147	1,294	12.8	1,166	1.7
June		1,440		1,231	

Source: Form EIA-119M and the Ohio Division of Energy.

Table A-4. Cleveland Electric Illuminating Company:
Forecast of Electric Energy Demand
(1000 MWH)

	Actual Demand (1982-1983)	Utility Forecast (1983-1984)	Forecast % Change (Utility Forecast vs. Actual)	ODOE Forecast (1983-1984)	Forecast % Change (ODOE Forecast vs. Actual)
July	1,556	1,540	-1.0	1,620	4.1
August	1,461	1,574	7.7	1,587	8.6
September	1,386	1,453	4.8	1,491	7.6
October	1,379	1,481	7.4	1,524	10.5
November	1,361	1,452	6.7	1,495	9.8
December	1,410	1,563	10.9	1,576	11.8
January	1,535	1,670	8.8	1,696	10.5
February	1,413	1,561	10.5	1,556	10.1
March	1,532	1,585	3.5	1,628	6.3
April	1,406	1,439	2.3	1,486	5.7
May	1,414	1,507	6.6	1,448	2.4
June		1,551		1,576	

Source: Form EIA-119M and the Ohio Division of Energy.

Table A-5. Dayton Power and Light:
Froecast of Electric Energy Demand
(1000 MWH)

	Actual Demand (1982-1983)	Utility Forecast (1983-1984)	Forecast % Change (Utility Forecast vs. Actual)	ODOE Forecast (1983-1984)	Forecast % Change (ODOE Forecast vs. Actual)
July	953	916	-3.9	920	-3.5
August	880	923	4.9	885	0.6
September	796	833	4.6	781	-1.9
October	827	876	5.9	827	0.0
November	834	912	9.4	835	0.1
December	887	1,009	13.8	916	3.3
January	986	1,102	11.8	1,024	3.9
February	859	991	15.4	901	4.9
March	893	963	7.8	920	3.0
April	826	836	1.2	834	1.0
May	796	825	3.6	800	0.5
June		875		812	

Source: Form EIA-119M and the Ohio Division of Energy.

Table A-6. Ohio Edison Company:
Forecast of Electric Energy Demand
(1000 MWH)

	Actual Demand (1982-1983)	Utility Forecast (1983-1984)	Forecast % Change (Utility Forecast vs. Actual)	ODOE Forecast (1983-1984)	Forecast % Change (ODOE Forecast vs. Actual)
July	1,959	2,009	2.6	1,962	0.2
August	1,852	2,030	9.6	1,951	5.3
September	1,726	1,881	9.0	1,814	5.1
October	1,775	1,970	11.0	1,874	5.6
November	1,780	1,953	9.7	1,855	4.2
December	1,812	2,065	14.0	1,966	8.5
January	1,992	2,236	12.2	2,115	6.2
February	1,823	2,028	11.2	1,903	4.4
March	1,977	2,042	3.3	2,003	1.3
April	1,837	1,835	-0.1	1,811	-1.4
May	1,809	1,849	2.2	1,801	-0.4
June		1,883		1,823	

Source: Form EIA-119M and the Ohio Division of Energy.

Table A-7. Ohio Valley Electric Corporation:
Forecast of Electric Energy Demand
(1000 MWH)

	Actual Demand (1982-1983)	Utility Forecast (1983-1984)	Forecast % Change (Utility Forecast vs. Actual)
July	1,358	1,371	1.0
August	1,336	1,371	2.6
September	1,233	1,276	3.5
October	1,297	1,331	2.6
November	1,259	1,356	7.7
December	1,322	1,409	6.6
January	1,436	1,440	0.3
February	1,173	1,309	9.5
March	1,257	1,371	9.1
April	1,159	1,373	18.7
May	1,090	1,436	31.7
June		1,336	

Note: Figures reflect total net generation.

Source: Form EIA-119M and the Ohio Division of Energy.

Table A-8. Toledo Edison Company:
Forecast of Electric Energy Demand
(1000 MWH)

	Actual Demand (1982-1983)	Utility Forecast (1983-1984)	Forecast % Change (Utility Forecast vs. Actual)	ODOE Forecast (1983-1984)	Forecast % Change (ODOE Forecast vs. Actual)
July	635	613	-3.5	623	-1.9
August	601	633	5.3	618	2.8
September	565	586	3.7	566	0.2
October	570	571	0.2	587	3.0
November	575	618	7.5	585	1.7
December	601	645	7.3	622	3.5
January	654	680	4.0	682	4.3
February	581	643	10.7	605	4.1
March	615	690	12.2	629	2.3
April	582	635	9.1	564	3.1
May	572	619	8.2	564	1.4
June		627		568	

Source: Form EIA-119M and the Ohio Division of Energy.

Table A-9. Forecast of Ohio Electricity Demand - Residential Sector
(1000 MWH)

	Lower 95% Confidence Limit	ODOE Forecast (1983-1984)	Upper 95% Confidence Limit	Actual (1982-1983)	Forecast Percentage Change
July	1,931	2,265	2,599	2,346	-3.5
August	1,973	2,339	2,704	2,441	-4.2
September	1,680	2,060	2,439	2,052	0.4
October	1,455	1,848	2,241	1,943	-4.9
November	1,653	2,060	2,466	2,114	-2.6
December	2,089	2,509	2,928	2,527	-0.7
January	2,569	3,001	3,432	2,910	3.1
February	2,363	2,807	3,250	2,726	3.0
March	2,027	2,482	2,937	2,391	3.8
April	1,846	2,313	2,779	2,378	-2.7
May	1,482	1,959	2,437	2,017	-2.9
June	1,330	1,856	2,382		

Note: The forecast is based upon monthly summary statistics of the Ohio Electric Utilities Institute for eight major investor-owned electric utilities (excluding OVEC).

Table A-10. Forecast of Ohio Electricity Demand - Commercial Sector
(1000 MWH

	Lower 95% Confidence Limit	ODOE Forecast (1983-1984)	Upper 95% Confidence Limit	Actual (1982-1983)	Forecast Percentage Change
July	1,768	1,902	2,035	1,926	-1.2
August	1,760	1,906	2,051	1,946	-2.1
September	1,660	1,811	1,961	1,806	0.3
October	1,464	1,619	1,775	1,673	-3.2
November	1,443	1,603	1,763	1,625	-1.4
December	1,558	1,723	1,888	1,744	-1.2
January	1,703	1,872	2,041	1,839	1.8
February	1,654	1,827	2,001	1,779	2.7
March	1,575	1,753	1,931	1,740	0.7
April	1,498	1,680	1,862	1,661	1.1
May	1,431	1,617	1,803	1,604	0.8
June	1,550	1,751	1,951		

Note: The forecast is based upon monthly summary statistics of the Ohio Electric Utilities Institute for eight major investor-owned electric utilities (excluding OVEC).

Table A-11. Forecast of Ohio Electricity Demand - Industrial Sector
(1000 MWH)

	Lower 95% Confidence Limit	ODOE Forecast (1983-1984)	Upper 95% Confidence Limit	Actual (1982-1983)	Forecast Percentage Change
July	2,865	3,196	3,528	3,076	3.9
August	2,916	3,322	3,728	3,196	3.9
September	2,803	3,272	3,741	3,107	5.3
October	2,765	3,289	3,813	3,015	9.1
November	2,591	3,165	3,739	2,911	8.7
December	2,403	3,023	3,643	2,779	8.8
January	2,416	3,078	3,741	2,921	5.4
February	2,453	3,156	3,859	3,103	1.7
March	2,561	3,302	4,043	3,302	0.0
April	2,408	3,185	3,962	3,201	-0.5
May	2,414	3,226	4,037	3,343	-3.5
June	2,371	3,238	4,104		

Note: The forecast is based upon monthly summary statistics of the Ohio Electric Utilities Institute for eight major investor-owned electric utilities (excluding OVEC).

Table A-12. Forecast of Electric Energy Demand - All Sectors
(1000 MWH)

	Lower 95% Confidence Limit	ODOE Forecast (1983-1984)	Upper 95% Confidence Limit	Actual (1982-1983)	Forecast Percentage Change
July	7,235	7,842	8,449	7,746	1.2
August	7,344	8,051	8,758	7,980	0.9
September	6,885	7,679	8,474	7,361	4.3
October	6,413	7,287	8,160	7,056	3.3
November	6,395	7,341	8,287	7,091	3.5
December	6,801	7,814	8,827	7,519	3.9
January	7,475	8,551	9,628	8,157	4.8
February	7,254	8,389	9,525	8,059	4.1
March	6,921	8,113	9,305	7,882	2.9
April	6,354	7,600	8,846	7,640	-0.5
May	5,973	7,271	8,569	7,349	-1.1
June	5,962	7,364	8,766		

Note: The forecast is based upon monthly summary statistics of the Ohio Electric Utilities Institute for eight major investor-owned electric utilities (excluding OVEC).

APPENDIX B: NATURAL GAS

Historical Behavior of Sectoral Gas Requirements

Although no new customer hookups were allowed from 1972 until the passage of the Natural Gas Policy Act in 1978, the number of residential customers in Ohio remained relatively constant during this period. Since 1979, the number of Ohio residential natural gas customers has been increasing annually. However, the weather sensitivity of residential consumption, measured in terms of the change in the monthly volume of residential requirements as measured in MMCF per degree day per month, has generally been declining since the mid-seventies in the service areas of the four major Ohio natural gas utilities (See Table 11). Hence, residential sector demand has been declining. This fact is a reflection of the effectiveness of residential conservation measures implemented in Ohio. These measures, in turn, are a response to increasing natural gas prices.

As a result of reduction in interstate gas supplies during the mid-seventies, base allocations of lower priority industrial and commercial customers were curtailed between 1973-1977. This led to conservation in the commercial and industrial sectors, and to some fuel switching in the industrial sector. A reduced level of statewide economic activity has also contributed to declining trends of demand in these two sectors, as well as a continuing increase in natural gas prices from 1972 on.

There is no doubt that the major incentive for conservation in all sectors of the economy is the steep increase in energy costs. Between 1972 and 1981, imported oil costs have risen eight-fold, and natural gas prices have risen four-fold (See Table 12 and 13). These increases have been far ahead of any increases in real per-capita income.

Historical Monthly Sectoral Requirements

The monthly time series behavior of residential, commercial, industrial, and total natural gas requirements in Ohio from January 1970 through April 1983, is displayed in Figures 11 through 14. The seasonal variation in residential and commercial requirements can easily be discerned from these illustrations. Natural gas usage in all sectors peaks during the heating season, and falls off during the cooling season. The contrast between the natural gas consumption levels during the heating and non-heating seasons has increased over the past two years. The dramatic effect of curtailment enforced on the industrial sector during the 1976-77 heating season is shown in Figure 13.

Historical Annual Sectoral Requirements

Figures 15 through 20 present the annual sectoral natural gas consumption patterns observed in Ohio from 1960 to 1982. Figure 21 illustrates the respective shares of residential, commercial, industrial, and the combined electric utility and transportation ("other") sectors in the Ohio total. The historical trend of consumption shows a gradual increase from 1960 to 1972, followed by a gradual decrease from 1972 to date. The downward trend can be explained by numerous factors, including:

1. A ban on new customer hookups from 1972 to 1978 in response to the dwindling supply.
2. Curtailments in industrial requirements from 1973 to 1977.
3. Conservation induced by public and private programs and by the rising cost of natural gas.
4. A weak statewide economic condition reflecting the adverse impacts of worldwide economic shocks of the 1970's on the structure of the economy in the United States and in Ohio.

The economic shocks mentioned in point 4 above include:

a) the breakdown of the prevailing international monetary system in 1971 and the subsequent 100 percent devaluation in U.S. currency by 1973;
b) quadrupling of crude oil price by OPEC in 1973;
c) the winding down and termination of more than a decade of U.S. overseas military engagement in southeast Asia;
d) the doubling of already quadrupled crude oil prices in 1978;
e) three recessions of increasing severity and duration in 1971, 1974-75, and 1980 to this writing.

The impact of such severe, permanent, and widespread alterations in the general economic environment has drastically altered the structure of costs, prices, incomes, and production relations worldwide. The initial impacts of the shocks in question on the economy of Ohio have been rather adverse. The

continued downward trend in sectoral energy consumption in general, and natural gas consumption in particular, reflects not only conservation considerations alone, but may also reflect a permanent loss in industrial capacity, especially in the manufacturing industries.

Quantitative Analyses of Historical Natural Gas Requirements in Ohio

As indicated in Figures 15 through 21, the behavior of annual natural gas disposition in all sectors of Ohio, has displayed distinctly different trends during the sixties and early seventies, as opposed to the rest of the seventies and the early eighties. Such discontinuous time variant trends characterize the behavior of almost all sectoral energy disposition in Ohio as well as the nation.

The Ohio Division of Energy has developed an analytical methodology for the modeling and assessment of discontinuous time variant trends in annual economic and energy data series. As a result of this development, the department is in a better position to distinguish between temporary deviations from established trends, e.g. recessions or severe climatic conditions, and changes in established long-term trends. Continued application of this methodology will lead to improved understanding of the systemic factors which are responsible for the observed discontinuities in the historical time paths of the corresponding data series. Extraction of such critical information from historical

observation will invariably lead to more accurate forecasts of Ohio's future energy requirements by sector or by fuel type, and help identify possible shortages before they become critical.

A simultaneous time-path model of historical natural gas end-user requirements in Ohio is presented in Tables 14 and 14A, with sectoral end-user requirement forecasts for calendar year 1984 included in Table 15.

The estimated parameters of the model describe the dynamic behavior of the magnitudes of systemic trends in Ohio sectoral natural gas requirements between 1960-1982, as well as the magnitudes of significant temporary deviations from such established trends. Such temporary deviations are interpreted to reflect the magnitude of systemic responses to temporary alterations in the historically determined "normal" operating conditions of the sectoral system in question. They may also reflect possible alterations in the methods of measurement and in the accounting procedures involved in data collection and reporting practices, which may not be known at this time. Ohio Division of Energy makes every effort to keep the data definitions employed consistent over the domain of time under consideration.

As far as long-term trends are concerned, it is clear that the annual rates of change of natural gas requirements were positive for all sectors between 1960 and 1970. They became negative for all sectors between 1970 and 1972, and have remained

so to date. It is also clear that the recession of 1975 has resulted in a permanent decrease in the level of annual industrial natural gas requirements.

Any upturn in sectoral natural gas consumption rates will probably require significant increases in real state income relative to the real expenditures on natural gas by the respective sectoral end-users. Although it is clear that negative rates of growth cannot be sustained indefinitely, and the current levels of annual natural gas requirements in all sectors are close to those of 20 years ago, it can nevertheless be inferred that a sustained upturn in sectoral natural gas requirements in Ohio is not to be expected as long as:

1. The relative share of expenditures on energy resources continues to increase statewide.
2. The comparative advantage of the state's industrial base continues to deteriorate, thus attracting fewer firms to locate in Ohio.
3. The price per Btu of natural gas relative to that of heating oil or electricity continues to increase.

Table B-1. Cincinnati Gas and Electric
Forecast of Natural Gas Requirements
(MMCF)

	Actual Demand (1982-1983)	Utility Forecast (1983-1984)	Forecast % Change (Utility Forecast vs. Actual)	ODOE Forecast (1983-1984)	Forecast % Change (ODOE Forecast vs. Actual)
July	3,188	2,746	13.86	2,706	15.12
August	3,382	2,738	19.04	3,192	-5.62
September	3,329	3,055	-8.23	3,394	1.95
October	4,532	4,654	2.69	5,295	16.84
November	7,119	7,424	4.28	7,470	4.93
December	8,634	10,783	24.89	10,524	21.89
January	11,681	12,718	8.88	12,527	7.24
February	9,441	11,548	22.32	10,101	6.99
March	7,970	9,477	18.91	8,240	3.39
April	6,264	6,127	-2.19	5,713	-8.80
May	*	3,820		3,264	
June	*	2,991		2,209	

*Actual figures were not available.

Source: SG-2. Forms of the reporting utility and the Ohio Division of Energy.

Table B-2. Columbia Gas of Ohio:
Forecast of Natural Gas Requirements
(MMCF)

	Actual Demand (1982-1983)	Utility Forecast (1983-1984)	Forecast % Change (Utility Forecast vs. Actual)	ODOE Forecast (1983-1984)	Forecast % Change (ODOE Forecast vs. Actual)
July	10,847	8,043	-25.85	7,989	-26.35
August	10,361	8,512	-17.85	8,963	-13.49
September	10,728	9,702	9.56	9,837	-8.31
October	16,585	14,953	-9.84	17,197	3.69
November	24,508	24,654	0.60	24,787	1.14
December	28,892	34,828	20.55	33,332	15.37
January	37,735	40,972	8.58	40,271	6.72
February	30,828	32,359	4.97	32,224	4.52
March	26,890	27,421	1.97	25,269	6.03
April	21,713	20,539	-5.41	17,699	-18.49
May	*	12,408		8,535	
June	*	9,933		4,510	

*Actual figures were not available.

Source: SG-2. Forms of the reporting utility and the Ohio Division of Energy.

Table B-3. Dayton Power and Light
Forecast of Natural Gas Requirements
(MMCF)

	Actual Demand (1982-1983)	Utility Forecast (1983-1984)	Forecast % Change (Utility Forecast vs. Actual)	ODOE Forecast (1983-1984)	Forecast % Change (ODOE Forecast vs. Actual)
July	1,667	1,557	-6.59	1,753	5.16
August	1,696	1,664	-1.89	1,859	9.61
September	1,717	1,692	1.46	2,059	19.92
October	2,323	3,027	30.31	3,083	32.72
November	4,748	5,407	13.88	5,267	10.93
December	5,657	7,388	30.60	7,571	33.83
January	7,352	8,418	14.50	9,401	27.87
February	7,754	8,679	11.93	8,822	13.77
Marcy	4,482	6,626	47.84	5,874	31.06
April	5,768	4,974	-13.77	4,953	-14.13
May	*	2,829		2,914	
June	*	2,064		1,677	

*Actual figures were not available.

Source: SG-2. Forms of the reporting utility and the Ohio Division of Energy.

Table B-4. East Ohio Gas:
Forecast of Natural Gas Requirements
(MMCF)

	Actual Demand (1982-1983)	Utility Forecast (1983-1984)	Forecast % Change (Utility Forecast vs. Actual)	ODOE Forecast (1983-1984)	Forecast % Change (ODOE Forecast vs. Actual)
July	19,281	18,873	-2.12	17,205	-10.77
August	19,769	18,304	-7.41	18,575	-6.04
September	20,371	21,121	3.68	20,135	-1.16
October	25,221	27,228	7.96	26,965	6.91
November	26,062	28,871	10.78	30,139	15.64
December	31,981	38,570	20.60	39,849	24.60
January	40,643	43,235	6.38	46,491	14.39
February	34,047	39,529	16.10	38,003	11.62
March	31,759	33,783	6.37	31,682	-0.24
April	31,847	30,048	-5.65	28,508	10.48
May	*	25,661		19,994	
June	*	20,506		16,024	

*Actual figures were not available.

Source: SG-2. Forms of the reporting utility and the Ohio Division of Energy.

Table B-5. Independent Forecast of Ohio Natural Gas End User Requirements-Residential Sector (MMCF)

Month	Lower 95% Confidence Limit	Forecast (1983-1984)	Upper 95% Confidence Limit	Actual (1982-1983)	Forecast Percentage Change
July	3,434	5,643	8,464	8,247	-31.58
August	3,099	5,719	8,578	7,554	-24.29
September	3,637	7,369	11,053	8,807	-16.32
October	7,605	15,210	22,815	13,095	16.15
November	17,088	28,399	39,710	26,841	-5.80
December	34,818	46,142	57,466	38,216	20.74
January	46,498	57,828	69,159	50,065	15.51
February	42,659	53,992	65,326	51,699	4.44
March	27,299	38,634	49,968	38,557	.20
April	16,695	28,030	39,365	36,593	23.40
May	7,655	11,655	15,655	*	
June	1,441	2,882	4,323		

*Actual figures were not available.

Table B-6. Independent Forecast of Ohio Natural Gas End User Requirements-Commercial Sector (MMCF)

Month	Lower 95% Confidence Limit	Forecast (1983-1984)	Upper 95% Confidence Limit	Actual (1982-1983)	Forecast Percentage Change
July	2,098	4,197	6,295	3,869	8.48
August	2,088	4,176	6,264	3,615	15.52
September	2,245	4,490	6,735	4,113	9.17
October	3,412	7,506	11,600	5,789	29.66
November	9,607	13,703	17,798	11,872	15.42
December	17,907	22,003	26,100	16,964	29.70
January	23,916	28,013	32,109	21,976	27.47
February	23,533	27,630	31,727	22,747	21.47
March	17,750	21,847	25,944	16,520	32.24
April	12,367	16,465	20,562	15,458	6.51
May	5,053	9,155	13,257	*	
June	2,707	5,414	8,121	*	

*Actual figures were not available.

Table B-7. Independent Forecast of Ohio Natural Gas End User Requirements-Industrial Sector (MMCF)

Month	Lower 95% Confidence Limit	Forecast (1983-1984)	Upper 95% Confidence Limit	Actual (1982-1983)	Forecast Percentage Change
July	6,753	14,714	22,675	14,382	2.31
August	8,846	16,892	25,738	14,904	13.34
September	8,286	18,051	27,816	14,167	27.42
October	10,585	20,945	31,306	14,855	40.99
November	11,608	22,436	33,264	16,757	33.89
December	13,386	24,587	35,787	16,152	52.22
January	15,384	26,883	38,383	18,409	46.03
February	14,916	26,657	38,398	19,208	38.78
March	14,202	26,139	38,077	18,008	45.15
April	12,600	24,698	36,795	17,588	40.43
May	11,293	22,586	33,879	*	
June	10,763	21,527	33,925	*	

*Actual figures were not available.

Table B-8. Independent Forecast of Ohio Natural Gas Requirements-Total-All Sectors (MMCF)

Month	Lower 95% Confidence Limit	Forecast (1983-1984)	Upper 95% Confidence Limit	Actual (1982-1983)	Forecast Percentage Change
July	15,564	31,129	46,693	36,677	-15.13
August	17,122	34,245	51,367	36,941	-7.30
September	18,681	37,363	56,044	38,211	-2.22
October	33,434	55,233	77,032	51,190	7.89
November	49,189	71,043	92,897	65,684	-8.16
December	73,554	95,432	117,311	78,907	20.94
January	91,420	113,309	135,200	102,323	10.74
February	70,807	92,702	114,597	86,178	7.57
March	51,719	73,617	95,514	74,561	-1.27
April	36,755	58,653	80,552	68,632	-14.54
May	17,796	35,592	53,388	*	
June	14,211	25,244	37,866	*	

*Actual figures were not available.

Table B-9. Projected Supply and Demand for Eight Major Ohio Natural Gas Utilities (MMCF)

COMPANY: CINN. GAS & ELEC.

PROJECTED SUPPLY AND DEMAND (IN MMCF)

MONTH/YEAR	5/83	6/83	7/83	8/83	9/83	10/83	11/83	12/83	1/84	2/84	3/84	4/84	SUMMER	WINTER	YEAR
SUPPLY	5308	4116	4020	4014	3055	4654	7424	10783	12718	11548	9477	6127	31294	51950	83244
DEMAND	5308	4116	4020	4014	3055	4654	7424	10783	12718	11548	9477	6127	31294	51950	83244
DEFICIENCY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% DEFICIENCY	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

COMPANY: COLUMBIA GAS

PROJECTED SUPPLY AND DEMAND (IN MMCF)

MONTH/YEAR	5/83	6/83	7/83	8/83	9/83	10/83	11/83	12/83	1/84	2/84	3/84	4/84	SUMMER	WINTER	YEAR
SUPPLY	18207	14347	9338	10588	11528	18327	24654	34828	40972	32359	27421	20539	102874	160234	263108
DEMAND	18207	14347	9338	10588	11528	18327	24654	34828	40972	32359	27421	20539	102874	160234	263108
DEFICIENCY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% DEFICIENCY	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

COMPANY: DAYTON POWER & LIGHT

PROJECTED SUPPLY AND DEMAND (IN MMCF)

MONTH/YEAR	5/83	6/83	7/83	8/83	9/83	10/83	11/83	12/83	1/84	2/84	3/84	4/84	SUMMER	WINTER	YEAR
SUPPLY	3269	2246	1825	1819	2153	3515	5407	7388	8418	8679	6626	4974	19801	36518	56319
DEMAND	3269	2246	1825	1819	2153	3515	5407	7388	8418	8679	6626	4974	19801	36518	56319
DEFICIENCY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% DEFICIENCY	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

COMPANY: EAST OHIO GAS

PROJECTED SUPPLY AND DEMAND (IN MMCF)

MONTH/YEAR	5/83	6/83	7/83	8/83	9/83	10/83	11/83	12/83	1/84	2/84	3/84	4/84	SUMMER	WINTER	YEAR
SUPPLY	28480	23187	21484	21199	23075	29085	29681	39265	44057	40405	33783	30048	176558	187191	363749
DEMAND	28480	23187	21484	21199	23075	29085	29681	39265	44057	40405	33783	30048	176558	187191	363749
DEFICIENCY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% DEFICIENCY	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table B-9. Projected Supply and Demand for Eight Major Ohio Natural Gas Utilities (Cont'd) (MMCF)

COMPANY: NATIONAL GAS

PROJECTED SUPPLY AND DEMAND (IN MMCF)

MONTH/YEAR	5/83	6/83	7/83	8/83	9/83	10/83	11/83	12/83	1/84	2/84	3/84	4/84	SUMMER	WINTER	YEAR
SUPPLY	1160	1090	1135	1135	1145	1145	1285	1365	1525	1445	1448	1200	8010	7068	15078
DEMAND	1035	1003	984	975	1028	913	985	1060	1510	1445	1448	1200	7138	6448	13586
DEFICIENCY	-125	-87	-151	-160	-117	-232	-300	-305	-15	0	0	0	-872	-620	-1492
% DEFICIENCY	-12.1%	-8.7%	-15.3%	-16.4%	-11.4%	-25.4%	-30.5%	-28.8%	-1.0%	0.0%	0.0%	0.0%	-12.2%	-9.6%	-11.0%

COMPANY: OHIO GAS

PROJECTED SUPPLY AND DEMAND (IN MMCF)

MONTH/YEAR	5/83	6/83	7/83	8/83	9/83	10/83	11/83	12/83	1/84	2/84	3/84	4/84	SUMMER	WINTER	YEAR
SUPPLY	569	353	413	427	285	513	717	885	1188	850	729	478	3038	4369	7407
DEMAND	569	351	413	427	285	513	717	903	1188	850	729	478	3036	4387	7423
DEFICIENCY	0	-2	0	0	0	0	0	18	0	0	0	0	-2	18	16
% DEFICIENCY	0.0%	-0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	2.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	0.4%	0.2%

COMPANY: RIVER GAS

PROJECTED SUPPLY AND DEMAND (IN MMCF)

MONTH/YEAR	5/83	6/83	7/83	8/83	9/83	10/83	11/83	12/83	1/84	2/84	3/84	4/84	SUMMER	WINTER	YEAR
SUPPLY	300	204	175	178	227	316	457	619	747	732	477	321	1721	3032	4753
DEMAND	300	204	175	178	227	316	457	619	747	732	477	321	1721	3032	4753
DEFICIENCY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% DEFICIENCY	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

COMPANY: WEST OHIO GAS

PROJECTED SUPPLY AND DEMAND (IN MMCF)

MONTH/YEAR	5/83	6/83	7/83	8/83	9/83	10/83	11/83	12/83	1/84	2/84	3/84	4/84	SUMMER	WINTER	YEAR
SUPPLY	710	493	393	427	545	880	1192	1418	1822	1745	1298	948	4396	7475	11871
DEMAND	710	493	393	427	545	880	1192	1418	1822	1745	1298	948	4396	7475	11871
DEFICIENCY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% DEFICIENCY	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%